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THE HEART OF A BIRD

By the Same Author

THE CHANGING FACE OF ENGLAND
A HANDBOOK OF BRITISH INLAND BIRDS
COUNTRY RAMBLES ROUND LONDON



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Oliver G. Pike

KESTREL SUNNING ITS TAIL-FEATHERS

This wary hawk is returning to more populous neighbourhoods

THE HEART OF A BIRD

BY
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AUTHOR'S NOTE

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THE HEART OF A BIRD

INTRODUCTION

I

BEFORE we begin to watch birds month by month, as they are described in these pages, it will be well to define our ideas of them, and of their place in Nature. Above all, they are flying things, full of eagerness and mobility. Their hearts beat more swiftly than those of mammals, their blood is hotter, they overflow with the self-expression of song. Flightless birds are not winged birds in the making, but specialists which have abandoned their hereditary gift for narrower comforts. Their penalty is to suffer extinction when their security is invaded by new enemies, from which they cannot fly. Only the strength and speed of the ostrich tribe, and the penguins' ingenuity and remoteness, have enabled them to hold their own with fair success against increasing competition. Even if these are spared—and the ostrich's outlook is doubtful except in domestication—all other flightless birds seem fated to extinction as their sanctuaries are invaded, unless they can be saved by human care.

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Of Nature's three attempts to make vertebrates fly, birds have been by far the most successful. Apart from insects, the most notable rival fliers were some of the large lizards of which we find the bones in that ancient belt of lias clays which stripes England from Dorsetshire to Yorkshire. These pterodactyls and their allies were not vast things, by the contemporary lizards' scale ; though some were larger than any flying bird, others were no bigger than a sparrow. Their brains were small in comparison with their unarmed bodies ; and since no winged creatures keep always on the wing, they seem to have been able to protect themselves no better than their earth-trampling cousins against the teeth and claws of mammals, and their more adaptable intelligence. They were dreary-looking beasts, unless the naturalists who reconstruct them from their stray bones do them injustice ; they flew feebly, and it is very unlikely that they sang.

Nature made another attempt to people the air, after she had fashioned her warm-blooded mammals ; and we still have bats. Bats shun the light, their skinny wings strike clammy, they often smell badly, and some of them are blood-suckers ; these things give us a prejudice against them. But if Nature herself could have her say, we can hardly think she would put bats and birds on the same level. Bats are enormously less

varied and less plentiful ; their command of the earth's resources is far more restricted ; compared with birds, they have failed to " make good." Birds are derived from lizards, but they are very unlike pterodactyls. Their wings are framed on a new and a much better plan. The invention of feathers, which are peculiar to birds, made all the difference. No other vertebrates have ever possessed a means of flight so light, strong, and easily controlled, as the flight-quills of a bird. Much is due, too, to the way in which the quills are fixed to the wing-bone ; the plan is distinct both from the pterodactyls' and the bats'. Pterodactyls' wings were slung from one long finger, and bats' wings are reinforced by four ; but in both methods the skinny folding membrane includes the legs, and is attached to the tail-bone. In birds the flight-feathers are fixed to the bones of the forearm and wrist, as well as those of the fingers ; these bones are much modified and consolidated for the sake of compactness and strength. Other parts of the skeleton, on the other hand, have the bones much lightened, by the inclusion of cavities like those in marrow-bones, or by air-sacs which lead to the lungs.

It is natural that these swift and finished creatures should possess keen senses. Unlike most beasts of prey, birds hunt by sight, and their vision is both acute and varied. Where the car-

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case is, the vultures are gathered together out of the blue by a system like the old telegraphs or semaphores ; one bird spies its prey far below, and the others flock to the descending speck in indefinite succession. While the eyes of these great birds excel our own in range, those of the warblers and titmice and flycatchers are as remarkable for microscopic precision. Watch the common spotted flycatcher hawking from the net of the lawn tennis post in the garden, or from a gravestone in some grassy country churchyard, and how seldom we detect on what it preys. We see the spot in the air where it feeds, and the snaps of its bill show how the air teems with invisible insects. Its eyes are large, for it hunts on into the evening light. It is much the same with the smaller titmice searching among the winter twigs, with the chiffchaff and willow-wren among the July foliage, and, above all, with the minute yet sturdy goldcrest, because in its curious indifference to man it lets us watch it more closely. Sometimes, and especially in summer, we see the searching bill, at the dictate of the keen eyes, seize a grub, a fly, a spider ; but far more often the little bird seems to rehearse an endless hungry pantomime, and we marvel how its eyesight outwits us.

Birds' eyes are many-coloured, but this variety seems an example of Nature's free variation, and

to subserve no utilitarian end. The jackdaw's eye is no sharper because of its pallor, and the goshawk's brilliant yellow appears to give it no practical superiority over the falcon's brown. Some birds' eyes seem subdued to that they work in, like the lammergeier's, with their hue of blood, or the cold green pupils of the cormorant that finds its food in the waters. Such eccentricities add greatly to a bird's personality ; but the colour of its eyes is of little importance in its activities compared with their position and size. Mankind has its eyes placed to look forward ; but, like the horse and the hare, most birds have their eyes at the sides of their head, like man's ears. This lateral adjustment gives them a wider range of observation than that of man. They can see further behind them, and thus are partly guarded against a stalking enemy, but are less apt to combine their double vision into an effective whole. Many birds turn one eye sideways when watching closely, just as we turn one ear, putting a hand behind it, when our hearing begins to fail us, or we wish to catch a distant sound. When we see a thrush cocking its head at the turf, and presently tugging out a hidden worm, this is sometimes claimed as a triumph of hearing. But a magpie will peer in the same way into a knot-hole or a marrowbone ; and there is little doubt that the thrush sees a slight heave of the soil, and that a

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man's ear and a bird's eye are used in the same way because they are similarly implanted.

Most birds that hunt in the dusk or darkness have prominent eyes. That is the secret of the great eyes of the owl, that stare so solemnly by day ; and day-flying owls, such as the short-eared and hawk owl, are noticeably less moon-faced, and more aquiline. We see this contrast of equipment in the commonest birds which peck about our garden floors. The size of the eye corresponds roughly with the birds' bedtime. Those small positive eyes of the sparrow were made for broad daylight ; its promptitude deserts it when the dews fall, and it flocks early to the ivy, where it scuffles on its untidy mattress. But the redbreast, with its large and liquid eye, is an evening bird ; it haunts the twilit paths, picking here and there a slug, but seeming to taking pleasure in their coolness and mystery. We might expect cormorants to have large eyes, to gather the veiled rays beneath the waters as the owl focuses the murky night. The smallness of their eyes suggests that they do not view their prey at long range, but search closely for it ; and we see cormorants fishing with apparent content where a chalky cliff-fall pours its thick white water down the tide, as if their shrewd eyes spied their prey at last through almost any medium.

The keenness of birds' hearing is shown by

their elaboration of song. We shall see, in the pages on spring, how studiously the males of some species improve their chants by rivalry, and with how alert a perception many mimic the songs of other kinds. The notion that the hen bird carefully compares the songs of her wooers, awarding herself to the best of them as the prize, is no longer held unmodified. Many observers now believe that the main objects of song are to advertise the singer's determination to hold a nesting-site against rivals, and to proclaim his presence to his old mate, or, if necessary, to a new one. Birds communicate freely by voice and ear ; we have only to fire a gun in the open, or even to clap our hands, and we shall see how vigilantly most of them are always listening for signals of danger. Curious instances stand on record of the susceptibility of certain species to sound. There is no need to distrust the old Roman story of the geese that heard by night the Gaulish raiders, and saved the Capitol ; even in domestication, geese are alert both of ear and eye. Many of us have heard cock pheasants acclaim the gunfire of warships that was inaudible to our own ears. That experience of wartime was repeated in the autumn of 1926, when pheasants far away in Berkshire burst into punctual frenzy when the guns broke out at the naval review held off Portland for the Dominion Premiers.

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Keen hearing probably supplies the stimulus to many an unaccountable movement of birds in flocks. When a flock is feeding round a winter cornstack it is often restless. Every couple of minutes we may see it leap into the air, and fly round the field, before returning to search the chaff again. Every yellowhammer and greenfinch in that flock may be thrilled by aerial tremors of which we only perceive the grossest. We know how most dogs' hearing is far keener than most men's ; and even among men the standard of hearing is not invariable. Our own decay often comes as gently as that of the oak leaves ; and it may be many years since some who would justly repudiate deafness heard the squeak of the bat or the shrew. To birds even on the calmest autumn day the air must be as full of noises as Prospero's isle ; and often, when a bunched flock rises in sudden alarm, it snatches a sound which our hearing does not register—a distant gate slamming, the clang of a plough crossing some far-off road, or the roar of a city, flung suddenly across the fields by an uncertain wind-flaw. Sometimes we can see by an accident how birds' senses are keener than our own, but yet not different. One sunny winter's day on the hills above the flooded Thames a great flock of chaffinches peaceably feeding in the stubbles sprang into air at no perceptible sound. A moment later there swelled

on the fitful air the deep note of a flooded weir, of which the birds' ears had caught the first signal.

Beaks and claws and feathered bodies do not seem likely to foster the sense of touch ; and, among birds, eyesight largely takes the place of it. Few birds have whiskers even distantly resembling those of the nocturnal cat ; and those bristles guarding the mouth of the flycatcher and nightjar seem to serve the quite different purpose of helping to imprison a mass of captured insects. Yet where eyesight cannot help them, birds' bills become delicately sensitive ; those little pits on the end of a dead snipe's bill are the shrunken ends of nerves with which it felt the worm wriggling deep in the ooze. Birds rely even less on scent than touch ; this is one of their strongest points of distinction from mammals. A very little imagination shows us how the dog's world is mainly a world of smells ; scents are his chief means of information. The old view that vultures were drawn by scent to their carcases is disproved and discredited ; and experiments with different kinds of birds have shown that their sense of smell is rudimentary, if not absent. It is true that some wild-fowlers are convinced that flocks of duck and geese are very susceptible to smell, and it is always rash to contradict the experienced. Notwithstanding, it is open to doubt whether

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hearing, and not scent, is not the sense that puts wild geese or widgeon on the alert—a hearing so fine that it catches vibrations from slight movements that the fowler believes to be noiseless. If a pheasant can hear gunfire more than 100 miles distant, which is inaudible to our own ears, it does not seem out of scale for a wild duck to hear the brush of sleeve on coat, or the compression of sand-grains by a nailed boot, at a few hundred yards' distance.

Behind so keen an ear and eye there dwells a consciousness alive to beauty. Such a statement may be denied, or even ridiculed, by naturalists of the determinist school—those whose conception of Nature assures them that birds and all other living things are automata which have acquired their characteristics under the unceasing pressure of a remorseless selection. I profoundly disagree with this view. I believe it is even falser than that other rendering of Nature which represents birds and beasts as impelled by human reason and human powers of reflection. Many examples occur in the following chapters which tend to show how birds' colours and markings are not all due either to the necessity of concealment, or the advantage of outshining rival wooers, but that each species is free, within wide limits, to give play to Nature's primal tendency to variation. Nearly all her patterns are beautiful in our eyes ;

and I believe that many birds also appreciate the beauty in Nature, though often they show it in ways which recall the coloured tags and tufts which adorn a savage's holiday dress, rather than the subtler delight with which we scan the fine brocaded pattern on the under-wing of a painted lady butterfly, or the minute spires and whorls of the snail-shells on the down. The lichens spangling the nest of the long-tailed titmouse and of most chaffinches are often explained as a means of protection ; but this utilitarian interpretation does not always serve. It is true that the lichens help to conceal the nest when it is built, like many chaffinches' and some of the titmouse's, among the like lichens on a tree ; but it is straining the facts to pretend that it has this effect when either nest is slung among thorns, furze or green undergrowth, as are more than half the nests of these kinds. The presumption that titmouse and chaffinch pick the lichens for their beauty is strengthened by the less habitual practice of many other birds. How can we claim that a certain Welsh buzzard coated its nest with white rowan-blossom for concealment, when its discoverer tells us that the decorative structure attracted his attention from afar ? Last spring a thrush's nest in Devonshire was found with red hawthorn blossom conspicuously variegating its moss. A Scottish observer has found an

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eagle's nest garnished with a cardboard cigarette box and an indiarubber ring, both brightly coloured and curious objects, such as the Australasian bower-birds choose for the decoration of their playgrounds. When tame jackdaws hide silver spoons or gold rings, they show a fondness for bits of bright metal which is very like our own.

Because the evidence of birds' æsthetic taste is so strong, it is reasonable to believe that they appreciate the beauty of their own plumage. Sexual adornments are agreed to have an inspiring effect, even though the claim that the hen bird critically compares her suitors' decorations has been discredited by observation. But many birds' bright plumage can hardly be explained by its usefulness in courtship. In many species the cock and hen birds are equally bright, and the first plumage of the young birds, after the downy stage, is scarcely less brilliant. Courtship scarcely explains the hen's finery, and does not at all account for that of the young. Even if the cock woodpecker or kingfisher were attracted by the hen's bright plumage, as she by his, what have their fledglings to do with the apparatus of courtship, which lies a year before them?

Such birds, in which the specific finery is impartially distributed, are a crucial example both of the free play of Nature's variation, and of the point at which it is checked. Let us compare

such well-known birds as ducks and pheasants on one side, and on the other the kingfisher and woodpecker, and the great and blue tits. All know the cock pheasant's gorgeous livery, and some naturalists give the far-fetched explanation that it has been evolved for concealment among the coloured autumn foliage. They do not say why the cock pheasant should have needed special protection in autumn long before pheasant shooting began. But the hen pheasant's soft brown plumage does appear to have been developed by the necessity of concealment as she broods her eggs in spring, among the dead and half-bleached leaves. Were she bright, she would be a beacon to her enemies. It is the same with most of our British ducks; the brilliant cock mallard and teal and widgeon have dull mates, which for the most part brood in open nests, scantily protected by ground herbage.

Let us next examine our other group. It is clear that the kingfishers and woodpeckers and bluecaps are free to share their mates' bright garments because at the inert and critical season of incubation they are stowed safely in holes. There is no protective value in the hen kingfisher's brightness, as there is in the hen pheasant's dulness; the reason for her markings is simply that she sits secure in a burrow, and that Nature's inherent tendency to elaboration of colour and

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pattern is given free play. This tendency to elaboration is so strong that Nature has coloured the little kingfishers too. When they emerge in June, and sit in a row on an alder root, they have already their parents' colour and markings, and only need a last touch of the burnisher to be as brilliant. It is the same with the little great and blue tits, and the same again, except for some curious details described later, with our three kinds of young woodpeckers.

Here is a plain and comprehensible rule, illustrating the limits of Nature's freedom. But like every rule based on the theory of protective concealment, it is confused by many perplexing exceptions. Why, for example, should the hen goldfinch be all but as bright as her mate? She does not incubate in a burrow, but in a roofless nest hung among the hawthorn bushes, or in a shade-tree. There is no credible explanation why she should be brighter than a hen song-thrush or hedge-sparrow. Certainly her gay colours have no protective value. It seems that even among birds nesting in bushes the great prime tendency to elaboration may still be unfettered. Natural selection appears less rigorous than many suppose. Even if we discovered some exceptional reason why hen goldfinches are safe from enemies, it is hard to explain reasonably on protective grounds the various approximations of

other hen finches to the plumage of their mates. Hen bullfinches have the cock's pattern, but less than their colour ; hen greenfinches are relatively duller still. Indoors, it may be easy to argue that the rigour of Nature is proved by the fact that these hen birds forgo their mates' brightness, and that their livery gives them protection. Outdoor experience repudiates the claim as a misleading half-truth. The physical basis of the relation of sex to colour is but little understood. When an old barren hen pheasant begins to assume cock pheasant's plumage, it is only a partial explanation to say that she is bound no longer by the necessity of protection while incubating. We do not know just what physical inhibition is removed. Fortunate visitors to the Alps and South Europe sometimes see the blue rock-thrush. The hen of that beautiful bird gradually assumes the cock's full blue livery, but does not cease breeding. There is a suggestion—it cannot be rated more highly—that the prime tendency to innovate in form and colour as a rule works more freely in the fierier and more diffuse male temperament than in the soberer constitution of the hen. It is true that the hens of hole-nesting birds run their partners very close ; but among bush-nesting birds there seems no sound protective reason why the hens should so often be feeble copies of the male. How can it benefit a hen

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blackcap to wear a russet cap, instead of the black one of her mate—especially when both birds incubate ?

II

Birds' mobility has helped them greatly in the struggle for existence. Wings enable them to seek food where the seasons provide it, to escape from storm, frost and drought, and to evade terrestrial enemies. Power of flight has bred an active and adventurous temperament ; no other creatures make such vast journeys, or for so short a stay. It astonishes us that our common sandpipers should spend so few weeks by the northern and western rivers where they nest, and return when summer is barely waning. And there are even more striking examples of birds' passion for movement among the petrels and albatrosses which visit our northern waters from far southern islets, and the American golden plovers which traverse two-thirds of the world's breadth twice every year, and escape both winters.

The simplest and most restricted forms of migration are determined by changes in the food supply. When certain trees in tropical forests bear fruit, parrots and other fruit-eaters flock to them, and disperse again when the crop is exhausted. Here in England the pied wagtail, which spent summer and autumn on the farm-

yard pond, migrates to the back door for scraps from the kitchen and dog kennel when frost cuts off the pondside insects. Other strong incentives to migration arise in the breeding season. Eager and jealous, most birds then seek the privacy of a little tract of earth which they can claim as their own ; and this impulse of their hot blood is reinforced by the need for an ampler food supply for their young, and space to gather it. Every increasing species will thus tend to expand its range by new rings of annual colonisation. Records of ringed birds have shown, in the last few years, how English-born mallards and starlings—both multiplying species—have migrated in late summer and autumn, not south, but north. These are the pioneers, the Drakes and Magellans, of the bird race ; and there can be little doubt that like enterprises of innumerable individuals in past ages has helped to fill the world with birds, as to-day we see them.

When the range of the colonising species widened, there must have come a time when they left the sun's heat so far behind them that, as the instincts of the breeding season flagged, autumn brought shortage of food. The passion for a separate territory had waned by now, and the nestlings that needed a well-stocked hunting-ground were independent foragers. The migrants returned towards their old home, where insects

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or fruit were still plentiful under the winter sunshine, or fish were accessible in the stormless seas. Thus the migratory habit was almost automatically established, by simple seasonal needs acting on the prime mobility of the race. once established, the recurrence of the seasons made it habitual. Every spring the pairing birds were urged to disperse by the passion for privacy, and by the unconscious purpose of securing a richly-stocked hunting-ground for supplying their young ; and every autumn they yielded willingly to the season's warning to get back again, because, as we shall see presently, most of them are safest, and feel easiest, when in flocks.

The yearly life of most birds must have been much of this kind in all ages since they were developed from lizards. Certain tracts of earth had a warm and equable climate, like that of the Amazonian forests to-day ; in others there was more marked oscillation of the seasons, with bird migration more punctual and definite. Earth's changes profoundly affected the life upon it. Continents sank under the sea, and new tides of cold swept over tracts which for ages had been tropical or temperate. Of all animate races, perhaps none were so little affected by these revolutions as birds. In the last Ice Age reindeer took refuge in the South of France ; and birds can migrate more easily than reindeer. There

were great ice sheets which pushed as far south as the Thames, and have now retreated to Greenland ; but this temporary refrigeration of part of their breeding zone was only an episode in birds' experience. It is certainly not likely to have originated the migratory habit. When swarms of wading birds press north to breed in June beyond the forest growth, quite possibly they may be reclaiming old haunts ; but it is natural for that keen and roving tribe to people nowadays so suitable a breeding ground, whether their ancestors bred there or not, before the ice sheet came.

Birds have now a notable preference for our northern hemisphere. It is not true that all migrants nest at their northern limit, but it is true of most of them. That is partly because the southern hemisphere nowadays provides much poorer breeding quarters. South of the two capes—Good Hope and the Horn—there is vastly less land than in like latitudes at this end of the earth, and what there is presents few attractions. There is evidence that the climate of Greenland is much colder to-day than when Norse colonists first called it Greenland ; but even to-day it is temperate, compared with the regions of the Antarctic. That some birds nest at the southern limits of their range is exemplified in New Zealand. The long-tailed cuckoo, which

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nests there, has been found during the southern winter in the Marquesas and Fiji Islands ; the shining cuckoo migrates thither from Australia ; and our own greenfinch, which the New Zealanders have rashly acclimatised, has been observed making the same passage. Other cuckoos visit South Africa in spring, and go north in autumn. The truth is that nearly all migrants nest at the cool end of their range, whether it is the south or the north end ; but there are exceptions even to the rule so stated. There are certain albatrosses and shearwaters, and other sea wanderers of the petrel tribe, which nest far south in the Atlantic and Pacific, and sometimes wander as far north as our own islands and the seas and islands to northward, which have roughly the same climate. When our swallows migrate to South Africa, or the American golden plover to Argentina, the climate that they find there seems as favourable for nesting as that of the north. Yet there is no sufficient evidence of these, or any other migrants which nest in the north, nesting in the south also. Their only breeding place is in the north, and this may possibly show that their origin was here also.

Much of the mystery of migration becomes less mysterious when we remember how freely birds fly. It is true that some of our migrants—for example, the wryneck and landrail—show great

weariness after their passage flights, but, although such climbers and runners have partly lost their skill, it is not surprising that they retain enough of the winged gift to achieve twice a year a flight of such supreme domestic importance. It is clear that some birds lose their way on migration ; the American wading-birds which are now and then found here in autumn have probably joined the wrong stream on the Siberian breeding-grounds, and are astray by the whole width of the Atlantic. It is plain, too, that migrating birds need their eyesight to help them keep their direction. The confusion of migrating flocks on a foggy autumn night is plainly audible, and mixed multitudes of migrants are sometimes driven by fog to make a sudden descent in gardens and streets. But American naturalists tell us that little auks and guillemots in Alaskan waters are not distracted by fog, and too much has been made of the necessity of gradually familiarising carrier pigeons with the route that they must follow. Tame house pigeons are derived from wild rock doves, and rock doves are some of the most sedentary of birds, in which the instincts of migration can at most be only latent. Because every extension of a familiar route needs to be learnt by these pigeons, it hardly follows that all migrants are equally dependent on visual experience. In fact, it is almost certain that many are

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not, for many young birds appear to move south to their winter home before the old birds start, and therefore to travel without guidance.

This is the most crucial point in the study of the migration of birds, and still needs careful inquiry. Not much importance can be attached to the departure of young cuckoos before their dams, for it would be more natural for them to follow their faithful foster-parents. We shall see how early in summer begins the outward tide of migration. But the young of certain species of waders also anticipate their parents' departure, and we need to find out whether they habitually travel in company with old birds of other species or independently. If they are guideless we are face to face with a case of what we used to call instinct. With an attempt to probe the mystery which does not carry us much further, we now designate it "hereditary memory." If birds are guided by this inward force on migration, it is not a unique example of instinctive power. The same instinct or hereditary memory teaches the little dipper to dive on its first leaving the nest, and every bird to build a nest after the model of its species. We are more impressed with unguided migration, because of its vastness of range, but it is no more unaccountable. It looks as if migrating birds are chiefly guided by instinct, but that this instinct is occasionally modified by

the ordinary use of the senses, and by free choice or will. It may be because birds insist on trusting to eyesight, instead of their blind irrational guide, that they grow as bewildered in a fog as human shipping, and are lured, like moths, to destruction by the rays of lighthouses. On the other hand, unmodified instinct would prevent the occasional American vagrant from straying to Fair Isle or Wales, or young teal bred on the Solway to Denmark and Sweden. Such adventures in the past have probably led to fruitful new settlements. The daring with which birds at all times face the dangers of migration must have helped their almost world-wide expansion. Some sea-birds are inveterate wanderers. Terns are notoriously fickle in deserting their breeding-places. A Sandwich tern ringed as a nestling on the Farne Islands in 1919 was identified, six years later, in South Africa. Most gulls are birds of inshore waters, yet two kittiwakes—the most maritime of our gulls—have been ringed on the Farnes and next heard of on the coast of North America, in a colder climate.

Until lately the accepted version of the return and nesting of our migrants was that they arrived in a stream or flock, that the cock bird won a mate chiefly by song, but sometimes also by the display of his plumage, and that the pair then settled down and nested. This view has been

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criticised on good evidence, but perhaps too sweepingly. The force of the criticism lies in the fact that the cock bird in many species arrives first on the spot where he nests, and sings before a mate comes near him. Thus, if we take this view, his song's chief purpose is to warn other mates to keep clear of his chosen territory ; but it also serves as an advertisement of his presence to hens of his own kind, which soon arrive. The point of the amended argument is that the cock bird chooses his site before his hen, and that, when the site is once won, a hen is acquired with little further trouble.

There is nothing revolutionary in this theory of birds' territory ; it does not hold true universally, and it by no means drives the older view of courtship out of the field. It does not apply to birds of fixed gregarious habits, such as house-martins, or rooks, or guillemots, or seagulls ; these need no separate territories, because they win food from wide tracts of sea or earth or air. At most each pair demands for its nest a few feet of elbow room. Many other birds approximate to the same tolerance when nesting quarters are limited, but feeding grounds are wide. We find yellowhammers and greenfinches and linnets nesting in plenty within a few feet of each other in a lonely lane crossing the unfenced ploughlands. A pair of ravens may expel rivals from a

mile or more of rocky coast, and a singing nightingale may assert his right to half an acre of oak-wood, but in such cases—and they are very plentiful—it seems to be a commanding and jealous disposition, more than the positive necessity of so large a hunting-ground, that urges the birds to claim it. There is a rigid conception of birds' territories which regards the space suitable for each species as including room for just so many pairs as occupy it and no more. If this were so, the only hope for each pair of bringing up a brood would be to seize one of the nest plots early, otherwise the spare cocks, and later the spare hens, must push on to new quarters. There is no doubt that returning migrants do often return to their old haunts. That has been shown by tracing marked birds. But nightingales and turtle-doves and other summer visitors are found colonising new ground ; and another resource for a bird returning late to its old haunts, on finding all the space claimed by its seniors, is to carve out a new territory from those already delimited. This is generally achieved by aggressive persistence, rather than actual fighting ; but sometimes there may be fighting too, though not, I think, often, without a hen to fire the rivals to violence. If it were true that the whole plot of ground could only support the families of the birds which first parcelled it, then short commons for one brood

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or another must follow the intrusion of the newcomers. But there is no conclusive evidence that this is so ; the extra mouths seem to throw no excessive strain on Nature's resources. The monopoly of these estates by separate pairs seems to spring more from the jealous rivalry of their owners at nesting time than from any precaution about food, either due to conscious care or dictated by blind instinct. Though the antagonism of cock birds is keenest towards other cocks of their own kinds, they often attack other birds too. Housekeeping, as well as matrimonial delicacy, may have a share in this, for the food of the young is much the same among many dissimilar species.

Many birds never lose touch with one another in winter, though they may wander widely. Quite possibly our pairs of corncrakes or swallows or willow-wrens may spend winter together in Spain or Africa, though the cock may be the first to start home. The nesting place may thus be the *rendezvous* and the bond of union. Without such a fixed point, migrant chaffinches, which form flocks of one sex, could hardly expect to meet again ; given this habit of local fidelity, every surviving hen can return to her own mate, after five or six months of grass widowhood. Many old birds die each winter, and many young birds must find mates each spring. After a favourable season there is more pressure on

space in the old quarters, while many haunts of certain species, such as the nightingale, are periodically rendered unsuitable by copse cutting. All this helps to show how there is nothing final in the allocation of territories, nor any fixity in the number of nesters. The nightingale finds his hazel copse felled since he left it ; there is no room for him there and he flits on into some new parish, or new county, and probably loses his old mate. One year we have three or four pairs of spotted flycatchers in our garden, the next only two or one. We cannot prove that all four pairs were not old visitors, residents and their offspring born in the garden ; but spotted flycatchers are often so erratic in the time of their arrival, as in their numbers, that, in spite of the annual use of the same nesting place, we suspect that the supernumeraries are wanderers.

Birds' nesting life displays their attractiveness most fully. Song is now at its height, and by no means always flags when the young are hatched. Apart from the fascination of their eggs, the diverse and beautiful nests of birds far excel in ingenuity the like cradles of any mammal. The feeding of young birds, with the parents' restless coming and going, is a much more interesting spectacle than the suckling of such young animals as allow us to witness it. Birds' ardour, and their eager anxiety, seem to reflect our own nature

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better than the mammals' secrecy. A bird's nest arouses a unique human interest, even among those who destroy it. A blind and half-naked young bird is quaint rather than beautiful ; it is well described by the " raw golly " of the old North-country rhyme. But it gains attractiveness swiftly, whether it is by the air of callow fierceness which stamps the infant sparrowhawk, or the puppy-like and incompetent plumpness of new-flown thrushes and finches. It is a happy sight to see a row of little flycatchers fed on a rail, or a mother corncrake, and the last couple left of her brood, bathing under the July alders. But this family life in most species is brief ; the affection of parent for offspring vanishes with animal swiftness, and the fierce privacy of the mated pair in the nesting season is exchanged for the companionableness of the flock, or for a self-contained solitude. Young starlings often begin to flock before the end of May, sometimes less than three weeks after we have noticed the last flocked fieldfares. Family life is the exception among birds, after all ; it is a brief reversal of the gregariousness of most species during the rest of the year, or of the robin's winter celibacy.

The society of a flock brings plain advantages to the smaller and more defenceless kinds. Flocked bodies must add warmth to winter roosts, and a hundred or a thousand eyes and

ears are a better safeguard than one pair. A hungry bird can satisfy its first hunger in confidence that the approach of bird or beast of prey will be signalled by its neighbours. Birds on the outskirts of a feeding flock act as sentinels by the necessity of their position, and that is why they often change their place, and leave the post of danger to others. It is possible that in feeding flocks of wild geese these outside birds voluntarily accept for a time a sentinel's duty. Mistrust of their exposed position may reinforce their concern for their companions, and keep them alert and fasting. There is a parallel to such a conscious development of an instinctive emotion in the way in which the well-known trick of feigning injury to distract attention from the young seems to have grown out of the clash of instincts. One impulse bids the frightened bird protect her brood, and another impels her to seek safety. Among small birds which feed in flocks there is no sign of a regular sentinel system ; that is the invention of a too constructive observation. Birds of prey flock too, especially when man's hand lies less heavily on them than it did until lately in England. Ravens flock to roost in mountain districts where they are numerous and comparatively free from anxiety ; and though carrion-crows are usually regarded as solitary birds, they now both roost and feed in flocks near London.

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It seems that most birds feel the social state the easiest, and return to it with joy after the passion of the nesting season.

To our own slower reactions and duller senses there seems an almost inexplicable unanimity in the movements of many winter flocks. It is fascinating to watch starlings or linnets on the stubbles, or dunlins on the seashore, rise, turn, toss upwards, descend, alight, as if directed by a single spirit. Their movements are so nearly simultaneous, and so swift, that it has been thought that such a congregation of birds forms a kind of telepathic accord between all its members, so that the whole flock is ruled by a joint impulse. Known gifts provide as likely an explanation. While we credit birds and animals with unproved faculties, we may overlook the sharpness of those they possess. "Clever Hans," the famous German calculating horse, was at length discovered to have no arithmetical gift, but a perception of the slight unconscious gestures of his trainer so acute that it might almost be called thought reading. It is much the same, in a different way, with the perceptions of birds in a flock. Their very keenness makes us explain them by something different. We have already seen how the alert hearing of flocked birds may make them unanimously respond to a signal which to us is inaudible. If the whole flock hears the alarm

note simultaneously, there is nothing surprising in its reacting to it with a single impulse. Any keenly expectant human crowd would do the same; and among birds, with their hot blood the nervous reactions are speedier, so that the response is instantaneous.

Other impulses may be originated by birds within the flock. Some of these birds may be accepted leaders; more often they are momentarily the most restless. A bird has only to rise in flight, or to wheel left or right, to be immediately followed. Watching flocked starlings, or the even more perfectly coherent troops of dunlins, with unprejudiced eyes, we can see that they often do not obey a single impulse, but two or three. The flock parts, swiftly to reunite; but it need not part at all, if it were controlled by telepathy or united consciousness, and not by birds' senses. Every bird conforms so swiftly to the movements of those beyond it that we are tempted to explain by telepathy or crowd consciousness what is no more than perfect and self-taught drill.

Except for the doubtful case of the sentries, there is no trace in birds' flocks of any elaboration of social life. Their flocks are not organisations but aggregates; they express no more defined a social instinct than the companionableness of kind for kind. The stories of rooks which condemn and execute criminals are another example of too

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imaginative observation. The facts amount, at most, to the common avoidance of a thievish neighbour, or to a combined attack upon him. Except in the nesting season, when one mate may build the nest, and brood, and the other fetch straws, and feed her, no birds have acquired even the rudiments of a society based on the division of labour. It is this division of labour which makes possible any social advance. Bees and ants have partly achieved it, but birds have not, and when we inspect the grim socialism of the hive and anthill, we may be thankful for their deficiency. A great part of the unique charm of birds lies in their incurable individualism. They remain individuals when they are merged into the winter throng, and are still more resolutely individualist when they develop their full vitality in the nesting season.

To many kindly and thoughtful people the slaughter in Nature overshadows half its beauty, and creatures so vital and full of perception as birds seem doubly susceptible of pain. I am one of those who believe in the happiness of wild life. Birds, in particular, appear too little gifted with sustained and conscious intelligence to pass their days in dread. Men know what perils beset their path through life, yet few honestly feel that life is not worth living. How much more free from care must be the birds, with their briefer griefs

and purely momentary reactions to danger ! Death harms less than the dread of death ; and though birds cower before the hawk that threatens them, their fear is momentary, and we may easily exaggerate it. If we catch a bird, the rapidity of its heartbeats is less due to terror than to normal high tension. The pitiful crying of the willow-wren over its threatened eggs is often interrupted by its picking some tempting insect. Actual pain, without the memory and anticipation of it, loses half its sting ; and of pain birds have a limited experience. They have few diseases ; their lives fade out, while they are fledglings, in a night's wind and rain, or are cut short by hawk and pike and weasel. No doubt birds' essential lack of concentration—their sheer bird wittedness—must rob them of some conscious pleasures. But that is only a negative disability, and in our own life, both the mystic's rapture and the small child's transports suggest that some of the deepest human delights may be unconscious too.

JANUARY

A SOUTH COAST BAY—GUILLEMOTS AND MERGANSERS
—HOW HERONS FISH—SINGING MISSEL-
THRUSHES.

AS January brings sharper cold and longer light, birds are moved by two opposite impulses. Some cling closer to the gardens that bred them, and the hospitable windows that feed them ; but many others form their largest flocks, and depart furthest from their summer homes and habits. The contrast is greatest among the chaffinches. Small chaffinch flocks not far from home may include both the rosy cocks and the browner hens, but in the gatherings of many hundreds, which roam the stubbles and beech-woods in winter, the sexes are hardly ever mingled. For some obscure reason, over most of England, flocks of hens are far more numerous ; most of these large flocks are of immigrant birds, and most of the cocks may either travel farther or not so far. This separation of the sexes for winter travel represents the relaxation of the ties of the nesting season in its extremest form. While many paired birds migrate together, and keep in touch even

in the largest flocks, the cock and hen chaffinch may be separated by unknown distances. Yet summer's tie is not necessarily sundered, and that memory of the nesting-place which brings swallows back to some English barn from South Africa may preserve a lifelong bond.

Warm, wooded cliffs overhanging a southern bay provide in January exceptional contrasts of bird life. Song-thrushes sing all day among the hawthorns that droop to the tide, and missel-thrushes in the ash-crests on the cliff-top. But the foreign thrushes haunting the same warm and berried shades are songless because homeless; flocks of fieldfares swerve over the brown slopes of brushwood, and redwings, which seem always in a hurry when flying, and always miserable, flit past with a mean piping cry. Pairs of stonechats descend from the furzy cliffs to help the rock pipits and water-wagtails eat the flies that breed among rotting seaweed. The stonechat avoids water like a cat, and while the pipits and wagtails chase the flies on the wet sand, he alights on a rock at the tide's edge and springs in the air at them like a flycatcher. A cloud of yellowhammers—which each cold day of a mild winter has gradually united—flickers on the cliff's edge with a whirl of gilded heads; and six cock greenfinches with vivid golden wing-bars hang like parakeets among the red-hipped rosebriars.

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These copse-clad cliffs are sometimes haunted in winter by a chiffchaff or blackcap which has refused emigration, but their chief interest is in the nearness of wild and diverse waterfowl to the redbreasts and thrushes in song. The South Coast is enlivened in January by water-birds from far-off breeding-places. Many fresh-water ducks and divers take to the sea in winter, both to escape ice and to profit by richer fare ; and towards the end of a winter when inland waters have been repeatedly frozen the fresh-water birds often outnumber the sea-birds. Vast flocks of mallard and widgeon bob in the off-shore ripple, waiting to leave their sheltered bay for tidal or inland feeding-grounds when darkness hides them. By day they keep cautiously aloof from the shore, and shift farther, with wary glances behind them, if a fisherman comes searching the tide-mark for driftwood. Yet their companionableness, which makes their flocks so dense, will at times induce a troop of widgeon to follow some bird of another species up to the very wave-break.

Often a great crested grebe unintentionally plays the part of decoy ; for many pairs of these grebes winter in sheltered bays, and of all the diving birds that haunt them they use the shallowest water. It is a curious sight to watch this stately diver spring to the surface with its long silvery neck and half-expanded ruff, followed by the eager glances

of the widgeon, still jerking nearer. Lustrously beautiful are these widgeon, with their yellow foreheads turned directly to the shore. As with most ducks, their hens are a dull foil to them ; yet in neatness of body and poise of upturned beak they are characteristic widgeon. What makes a flock of ducks so exquisitely pleasing ? That wrangling flight of laughing-gulls is as full of life but it is life in a harsher temper. Ducks have their quarrels too, but they are seldom more than the momentary squabbles of children ; bright and buoyant and social, they show life in one of its friendliest forms.

The tall grebes swim already in pairs, except here and there, where one seems to have lost a mate or not yet found one. If the widgeon and mallard are paired too, the couples are indistinguishable in the flocks. These form dense patches on the water, with barely space between bird and bird to avoid being jostled by the ripples ; and this gregariousness, which persists even in ducks of the farmyard, marks them sharply from the flocks of guillemots. Guillemots are birds of crags and deep water, and only stray or storm-bound fugitives approach the sandy shallows ; but when the north wind spreads smooth water under the cliffs a flock of mallards and a flock of guillemots are sometimes neighbours. The reason for their contrasted formation is plain. The ducks are

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simply spinning out time in idleness, in the toilet, or in sleep, until night rouses them for feeding ; but guillemots feed by day, as we can see by their constant diving, and they need more space for their fishing, just as the angler does not like to find a rod already on his pool. Yet guillemots have hours of daylight holiday. When their fishing has gone prosperously, in calm water, and the sun shines pleasantly at midday, a fleet of them will fall to preening and washing on the gently rolling plain. Their flanks flash white as the birds roll over to comb them, and the sound of their wings fluttering after their bath is borne to the cliff-top like the beating of many little paddle-wheels.

Other ducks find their way to these sheltered waters in January. Sometimes a wild southeasterly gale drives close in shore the dusky flocks of scoter, or "black duck." These go out again after the wind abates ; but the trim black-and-white tufted ducks, and squat pochards, in their red caps and grey mantles, linger later in the bay. Sheldrakes shine white on the water outside the farthest widgeon ; here they are the wariest birds of all, unless we can count the scoters, which by choice, keep to open sea. Sheldrakes are birds of the tidal shores and sandhills, and are half geese half ducks ; the hen wears almost her mate's plumage. Merganser often visit these shores in winter from their homes on Scottish rivers ; and

they are the strangest ducks of all. Their bills are highly specialised for catching fish, like the snout of the Indian gharial, or fish-eating crocodile ; long and narrow and set with two rows of notches, they give the bright-eyed merganser a face like some fossil lizard. Even the cormorant's countenance is less primitive ; and the effect of this strange saw-snout is only heightened by the male merganser's vivid plumage. Black head, white throat, ruddy breast, and long fringed crest make him look like some savage mumming in mask and feathers. His mate shows she is a duck, and not a goose, by dull brown plumage ; but she carries her weeds with the distinction of a modest fringe or crest, and we can spy her by the white patch on her wing. Like grebes, mergansers in late winter go strictly in pairs ; a few weeks more, and they will be home again in the Highlands.

Wanderers from far isles are the solan geese or gannets, which proclaim themselves, as we watch the guillemots from the headland, by a whiteness more snowy than that of any gull along these southern shores. It is fascinating but fruitless to wonder whether they are birds of the Bass Rock, or of Grassholm, in Pembrokeshire, or even of remote St. Kilda ; we only know that they are far from home. Once a solan plunges aslant into the sea-water, raising its spout of spray ; but the churning of these southern waves on limestone

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cliffs makes an opaquer element than they can well see to fish in, and they wrangle with the gulls for surface prey.

Strange ducks visit many inland waters in mid-winter, when no hard frost binds them ; by many a quiet pool and unpretentious strand the winter visits of the wildfowl bring bird-lovers the keenest thrill of the year. Distance and mystery invest them, like ships in from sea ; those goldeneye that float so peaceably, though warily, among the beech-boles mirrored on our woodland waters may have sped straight from Lapland. There is an unexpectedness about the winter comings and goings of waterfowl which stirs a wandering passion in the blood, and for a time seems far more alluring than the punctual domestic programme of the summer residents. On many of the barer and deeper park waters the contrast between the bird life of summer and winter is abrupt and severe. When autumn sweeps the surface bare of sedge-banks and giant rush-clumps, the coots, and even most of the moorhens, leave, like the warblers, for more hospitable strands. Then there is a dull, deserted interval of uncertain length, until the conflict of cold winds far to northward sheds, one night, some burnished troop of strangers out of the starry darkness, and the lake is repeopled.

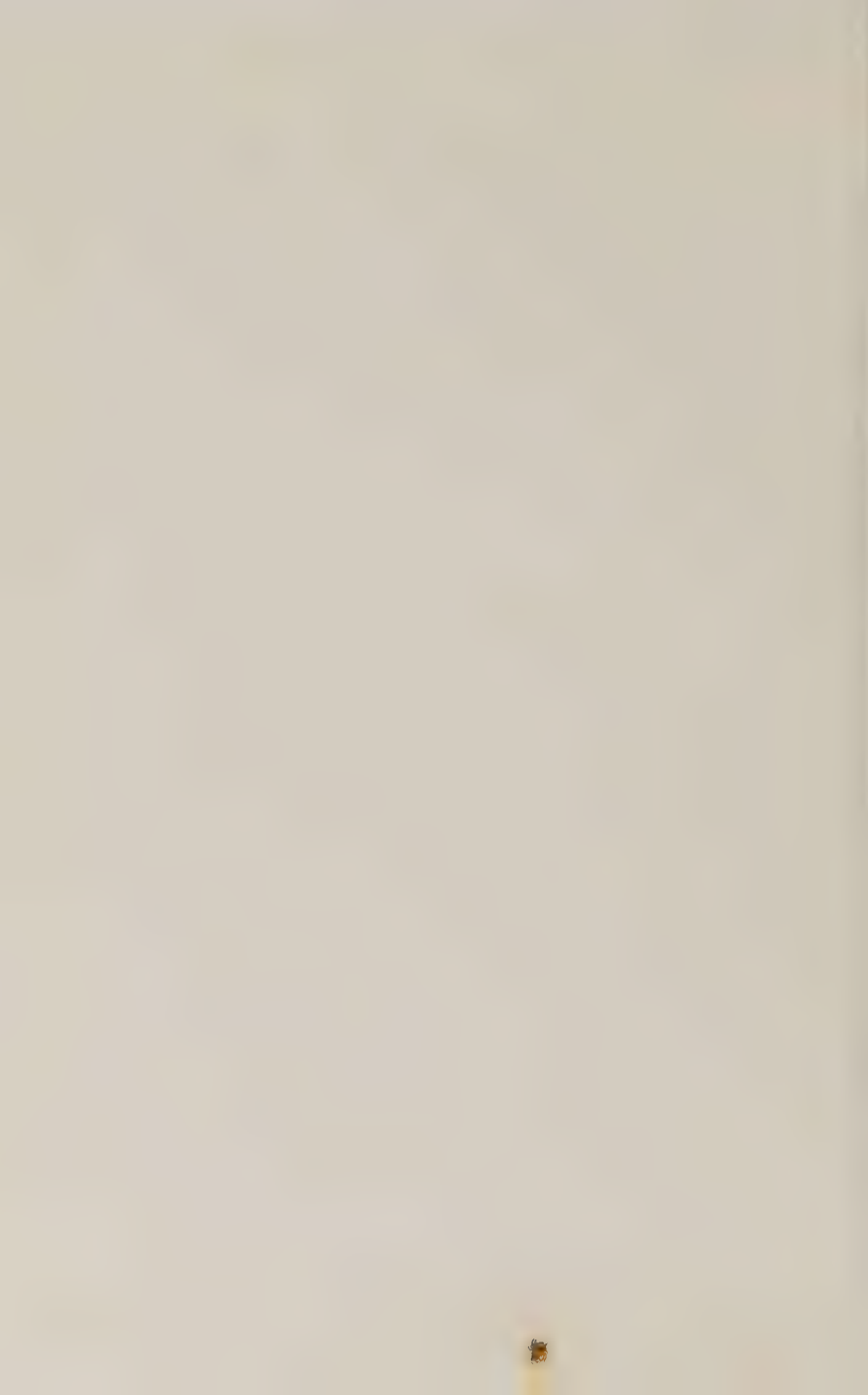
The great majority of winter wildfowl are of the duck tribe, and bloom in winter more brightly



Oliver G. Pike

LONG-TAILED TIT'S NEST AMONG BLACKTHORNS

The lichen coating does not aid in concealment



than Christmas roses. It is remarkable that almost all the kinds of ducks which either breed or winter in Britain have developed in the drakes a distinctive breeding plumage of varied brilliance. It is equally noticeable that this nuptial plumage of a precise and enamelled splendour is assumed, not in spring, when most other birds are freshly apparelled, but in early autumn. As all know who have watched ducks, even on the Serpentine, the time when the drakes lose their bright plumage is from July to September. Most birds are queasily dishevelled at that time ; but in no other kinds do cock birds of distinctive plumage pass through a prolonged double moult and a season in which they mimic their mates. By October this eclipse is over, and on the Serpentine, and other waters where wild ducks stay all the year, they emerge in spring's splendour. But on the little lonely lakes of the woods, half-veiled with flying beech-leaves, there are often no ducks at that season ; and that is what makes these nights and mornings of mid-winter so moving, when we see Orion shaking his sword in the clear, cold sky, and next morning the lake has teal or mallard or widgeon.

It seems strange at first sight that the mallard should have been the wild duck most widely tamed, for hardly any duck seems wilder. But the variest bird when wild is often the tamest when

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treated kindly ; caution and trustfulness are both phases of high intelligence. On winter lakes the other duck most signally mistrustful is the goldeneye ; yet in Lapland it lays its eggs in nest-boxes, and is at least half-tamed. Most strange ducks keep in the middle of a pond or lake by day ; but the goldeneye is the most resolutely centripetal. This fear of southern men and their wives adds to the goldeneye's fascination, and helps to distinguish it from the tufted duck. Both cocks are black and white, both hens dusky and soot-smeared, and—a subtler source of confusion for the inexpert—the eyes of both gleam as brilliantly golden. But the tufted duck of late years has learnt to nest on many of our lakes and ponds—once at least on a London East End bathing-pool—while the goldeneye returns in spring to the far north, and in England keeps the shyness of a stranger. Its white patches are more irregularly disposed ; and when it flies before us from one end of the lake to the other its wing-quills whistle.

Wildfowl impart their own vitality to any scene, and our meetings with stranger ducks enrich the memory. For sheer numbers, we best recall those sheltered seaside bays, where at the end of a hard January it seems that the widgeon and mallard of half North Europe are concentrated. Such “rafts” of duck are still worth the pursuit of the wildfowler ; but to nature-lovers

a meeting with a mere handful on some still forest water may be as memorable. While the sunset burns between the bars of the trees, there, in the middle, shift the white-flanked tufted ducks and pale grey pochards, while up spring the swift and agile teal drakes, with shrill yet mellow call. Night falls sweet and mild, yet its starry influences may disperse as much as settle these wild wanderers. To-morrow we may miss the teal and pochard and tufted duck, but find mallard come.

In windy and wet New Year's weather herons visit streams of moderate volume in sheltered valleys, and bring the zest of large new life. The long grey fisher is as wary as the goldeneye, but a solitary ; though they nest in company, herons are like the human fly-fisher, and shun their fellows when they are most intent on their work. One watchful, slowly-moving figure may with difficulty steal close to flighty fish, but two can hardly fail to scare them. The slender stilts of the heron cut the water without eddy or wave ; but, however patiently the human fisher advances, his brogued feet crunch where the bird's pointed feet would cling, and he is clogged by his rubber trunk-hose. Man redeems his clumsiness by his inventiveness. With the aid of rod and line the fly-fisher can cast his fly many yards before him ; but the heron must creep close enough to strike with the naked beak.

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Fish escaped from the heron's bill show that he has two ways of using it. Closed, it forms a bayonet or pike ; opened and shut upon the prey, the mandibles become a forceps or pair of pincers. On chalk streams, where herons fish in summer, the human fisher from time to time catches a trout with a red wound stabbed in its back. That is where the point of the bayonet pricked, when the trout saw the grey neck and fled, or perhaps when the heron struck at too great a distance. Other trout are scarred with the beak on each flank. Sometimes the grip is so sharply indented that it is surprising how the fish escaped ; probably the bird let it fall as it changed its hold to swallow it. On one Hampshire brook it seemed to me that herons used the tongs on trout of half a pound, or not much over, but attacked the larger fish by spearing them. This seems reasonable, for given a beak which is long and sharp and straight, it must be easier to nip a little fish, and stab a strong one.

Since some fish lie hid in winter in holes, and others swim deeply submerged in the flooded eddies, herons might often go hungry in January unless they had a wide choice of fishing-grounds. We see their grey wings folded above misty streams many miles from their nesting-places, though our English herons are mostly sedentary. Their migrations, like those of many rooks, are of

a daily kind ; at sunrise they fly afield, and return to their roosts at sunset. A heronry with young may have a fishing radius of several dozen miles, and the range of some birds in winter is perhaps as distant. Their keen eyes pierce the muddy water of the estuaries, like those of the dogs used in the Severn salmon fisheries, and salt water fish, such as whiting, are as familiar to their expansive gullets as inland roach or eels. When spring spreads a varied table they will feed freely on frogs, and not refuse a crayfish or a young bird ; but in January the frogs are still asleep in the mud, crayfish seldom expose themselves, and the fishy food of the heron is varied by little except an occasional water-rat or starved bird. Always spare of flesh, herons in hard frosts may become mere bone-bags ; but on the whole they fare better than most inland birds, because they can migrate to tidal waters, and these are never all frozen. Their welfare is testified by their promptitude in nesting at the first dawn of spring. Only birds which have wintered well have spirit and stamina to begin egg-laying before the March equinox ; and many herons in mild seasons have their four blue eggs aloft in a windy nest before the end of February.

As the heron springs from the pool, and with stretched neck spreads his wings on the wind, the dark quill-feathers make a bold pied pattern ;

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but as he stands at rest he is as grey as the mist, or the dried ooze on the marshland sluice. Just as the bittern's plumage is assimilated to the reeds, so the heron's is subdued to the monotone of the mudbanks. Among the deep June grass in a Berkshire water-meadow, his head uplifted in affronted vigilance gleams as bright as silver ; Nature painted him not for that vivid forage-crop, but to melt into the perennial dimness of sedge and mire. The dark streaks about his nape and head complete the likeness to an old willow-stump blackened by rain above water level. There is an abandoned brick-pool near London in which every time that the train passed one dry summer a heron stood fishing, and fishing, exactly at the same corner. Only when rain came, and the water submerged it, the bird was revealed as the last post of a destroyed fence which once kept out cattle. Distance on the mudflats is as deceptive as a careless glance from a train ; half a mile away, in grey weather, herons are posts, and posts herons. No bird has a greater immobility ; that and the flash of its bill, swift as the toad's tongue, are his vital equipment as a fisher.

Some have thought that it is supplemented by light, and that the heron brings his own lamp to "burn the water," like a salmon poacher. There are strange patches of crumbling feathers on his

breast and flanks, and these are stated to be sometimes luminous, like the plumage of certain owls. Phosphorescence is not always purposeful, and whatever the meaning of these dusty plumes, they can scarcely serve to attract fish within striking distance in the dark, for the heron is naturally a day feeder. Other fishers have thought that the bird's greyness makes it invisible to the fishy eye, and have smeared their rods blue-grey to match it. This device might work better if we could also conceal the shadow of a rod. Then there is that strange toe, ridged, like the nightjar's, as if for seizing prey, though the heron does not so use it. It has secrets which its wild voice does not tell.

Spring's approach does not make it more mellow ; dying winter does not teach those great throats to warble, as it does the curlews ; we must content ourselves with the conversion of the missel-thrushes. Missel-thrushes are not among the first winter singers ; we rarely hear their music before the shortest day, and all through autumn they well earn their name of screech-thrushes. The change comes most often late in January, when we first spy the thrusting snow-drop-spears among the orchard moss-beds. As usual, the missel-thrush in the orchard greets us with a harsh voice and insolently resentful flight ; but what was that sweet, wild whistle, deeper than

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the song-thrush's, and too full for an imitative starling's, which we heard before the gate clanged ? We hardly dare hope the missel-thrush is singing yet, though we know how the lengthening days rouse the life in him, as they quicken the bulbs and bines. Five minutes later the sweet, monotonous notes pulse forth again—a simple song of three notes often repeated, yet with a strange accent of artless sincerity which makes the song-thrush's phrases seem mannered. That wild and windy music is the signal of all the joys of earliest spring—lengthening hazel-catkins, the first fiery celandine among the empty snail shells, Orion mounted high as the light fades round him, and in the wind beneath him a new life thrilling its chill.

As the light lengthens, the screech-thrush changes its habits with its voice. Even before midwinter he had often ceased to be the wanderer that we met in late summer on the heaths and hills. The prodigal returned to us when fruit failed on the high slopes ; and if his demeanour has since been far from penitent, we, on our side, have offered him no fatted fare, owing to his own shy habits. Yet his loud language is a mark of affection ; home from the hill again, and with his mate beside him, his heart is set on the nesting-place which he knows is in our keeping, and for which he tolerates ourselves. Neither the

half-domestic song-thrush, nor the blackbird, which is a thrush in race and habit, is so faithful in its return year by year to a single crotch in a garden shrub or an apple-tree as the wilder singer. To some of these bare nesting-places the missel-thrushes return as unfailingly, year by year, as the bluetits to their hole in the greenhouse wall, or the flycatcher to its vine trellis. Some have thought that missel-thrushes approach houses to escape from carrion crows. But crows, too, nest in screens of trees about houses, and it seems more likely that missel-thrushes draw near for shelter, scarce in the open country before the leaves are out. Once the crow and the thrush are nesting neighbours, the weaker bird is protected by that truce of convenience which usually holds good between adverse species at nesting time. The crow is acute enough to avoid the hostile screeching which might advertise his own nest. While he destroys eggs and young out in the fields, he will allow a blackbird to nest safely in his own tree ; and in this his policy is more merciful than that of the brown owl, who, being an outcast from day's fellowship, and having her own young shielded in a dark cavern, ravishes her neighbour's young without compunction or misgiving.

The missel-thrush's song is often mistaken for that of the blackbird, in the early weeks when few blackbirds are yet singing. Blackbirds sing

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here and there in mild seasons from the very beginning of the year ; they recover their voices soonest where they have fared most comfortably, in town and country gardens. But in most places the missel-thrush begins singing a month or six weeks earlier, and it is often not until both songs can be compared that the blackbird's superiority is manifest. The compass of its voice and the elaboration of its phrases are each greater ; no missel-thrush can roll a note so speaking and so golden. A blackbird both flutes and warbles, while the missel-thrush has only its flute-notes, and of these but few. The blackbird is unmistakably the greater singer—even the nightingale hardly excels him—yet there is a wild innocence in the song of the missel-thrush in snowdrop time, which charms like the blackbird's magic in April.

Even if the blackbird or the missel-thrush is not singing yet, light in the skies of January often provokes the earliest love-flight of the urban woodpigeon. In frostless winters in London the great doves begin to coo in the darkest days of December ; on some quiet Sunday morning, among the naked planes, that syllabic chant of the woodlands, fresh as country butter, beats out over the abated throb of distant traffic, and fills the mild air in the square. In sharper winters, which keep even the thrushes silent, the song of

the woodpigeons is postponed ; and then we may see them welcome spring before we hear them. Like the gulls which soar in spirals over London in calm weather, woodpigeons sometimes choose for their ecstatic exercise a day which to human senses seems purely wintry. Up shoots the pigeon from a park poplar or elm, and at the height of its parabola spreads its wings and glides downwards to another perch, or repeats its undulation. Even pigs know the coming wind, and cattle descend the mountain before rain threatens ; and to the volatile and fiery heart of the bird the brighter light in January and the sense of silent expectation make spring already.

As the woodpigeon sinks with spread wings it displays their white bars to its mate in a neighbouring tree ; and on a bough, or on the turf of the park, we see it arching its neck and ruffling the two white patches which make its so-called " ring." Like stock doves and wild rock doves, these ring doves are mainly grey ; but in the flush of their wine-stained flanks there is a hint—more than a hint as the sun brightens—of the magnificent mauves and purples which irradiate the great crowned pigeon of New Guinea and other tropical doves. The plumage of certain exotic pigeons is counter-changed with metallic green, and here, for a hint of that splendour, we must look not at the grey and rosy woodpigeon,

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but at the other London pigeon, the half-wild rock dove. The patches on the rock dove's neck are of a green that is fanned to a Southern flame in the plumage of the bronzewings.

Jealousy burns hot beneath the sober plumage of doves under London skies ; we hear a crack, a scuffle, in the boughs aloft, and there are two woodpigeons beating each other with an expression of astonishment at their own anger. They do not peck, for those vegetarian beaks were not framed either for stabbing or rending ; they cuff each other with their tough wrists, which in one vanished species of pigeon Nature armed with a stout knob of bone. As we watch the bare planes we can amuse ourselves with every impulse of the affronted lovers ; later, when the leaves are thick, these duels in the tree-tops often cause some mystification, until there tumble from the beaten foliage two flustered doves.

On the pigeon family the sun never sets, and its widely Sundered branches have seen great vicissitudes. The dodo was a pigeon which waxed monstrous with good living, and gave up flying because it found no need to fly. One day there came to its island man with his cat and dog and pig, and soon there were no dodos. Far stranger is the extermination of the passenger pigeon, which within the memory of men not old darkened the forests of the United States in

countless millions, and now has vanished too. This is the most remarkable of all the deeds of extermination perpetrated by man ; it seems only to have been possible because this pigeon, though it kept its speed of wing, had a mind too like the dodo's. Apparently nothing could cure it of the flocking habit, and every flock was the hunter's mark. Woodpigeons in London parks grow gross and fly little ; and even in London they have sometimes the habit of congregating in large roosting flocks. But here there is no danger in flocking, and no dodo-like ineptitude. Lean Persians stalk woodpigeons in small railed gardens, intently certain that birds so fatly pedestrian must fall to the final spring. The pigeon knows perfectly when the cat will jump ; one second earlier it lightly overtops the railings.

Both kinds of pigeon in London rank high among the birds which prove their intelligence by their adaptability. Housepigeons have nested in a tree, using an old woodpigeon's nest, and woodpigeons, deserting the boughs, have peopled a window-box on an upper floor of lofty buildings. One Hyde Park woodpigeon built a nest of hair-pins. Even the usual twig platforms in the leafless boughs of spring show a great change of earlier habit. That flimsy nest from which the yellow squabs fall so often is plainly meant to line a good safe hole, such as rock and stock doves use.

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Where woodpigeons live a wild country life they nest in shrouding fir woods, or, if there are none, then in still thicker ivy bushes. Promiscuous nesting in bare branches is a civic sophistication. Even in London the heart of a dark bush appears familiar and kindly. One nest was unexpectedly revealed in a holly bush by a park water. A cock woodpigeon had relieved his mate on the eggs, and was singing as he brooded them.

FEBRUARY

LEARNING TO SING—BREAKING UP THE FLOCK—
SONGS ON THE WING—RETURN OF THE
WOODLARK.

FEBRUARY is the shortest and, some say, the most disagreeable of the months ; but spring has definitely made a beginning. There is a charm in the long prospect of the season unfolding before us, and no hope has yet been betrayed. Wherever the hazel catkins droop lax and long, and shed their pollen at a tap, the fiery points of the female blossoms should be thrusting from a bud beside them. The cycle of the hazel's harvest is the longest among English shrubs with edible fruit ; these February flowers will not ripen nuts until Michaelmas. Their beauty serves no purpose of mere usefulness ; mated by the winds before leaves impede the drifting pollen, they beg the service of no insect. Their glow is of sheer vitality, like a lancet's graze that lets out the lifeblood of the year.

Birds' song is a grace of mating like the bloom of flowers ; and in February we hear songs just budding. Yet birds are much nearer to us than

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flowers ; and to minds that know the imperfections of speech there is interest in hearing birds struggle to find song, with an intense and, perhaps, a conscious effort from which flowers are free. The wilder and more elementary the note, the more easily the singer acquires it ; laughter and weeping need little schooling. Such an instinctive song is that of the missel-thrush, more widely heard from day to day as the light increases. Monotonous, as sun and life and air are all monotonous, it is filled with an exquisite simplicity, like the first cry of the earth itself as it awakes to the movement of the sun.

March will make that note a little freer, but not more learned, and in April it declines. But certain other birds have songs with a fixed elaboration of phrase ; and they spend February in learning to deliver them. Most musical of the titmice, in a week or two the blue-cap will be confidently chiming among the apple-branches, mimicking with easy sweetness a double tug on a creaking bell-rope, followed by its tinkling peal. This playful song can be heard in February in all stages of development, down to an inarticulate rattle or mutter of half a dozen notes, in which only the two halves, or *cæsura*, suggest the rhythm to come.

Chaffinches and yellowhammers have phrased songs not unlike in length, though the finch's is as gay and galloping as the bunting's is sub-

dued and plaintive. They are among the birds which most definitely repeat a fixed phrase, instead of improvising like the redbreast and most black-birds, or pouring forth, like the garden warbler in the May copses, a song long, vague, and golden, like that of a brook running under the summer sun. Both their phrases mount to a climax, and both achieve it with pains and persistence in the lengthening days. The chaffinch's critical notes emphasise its gaiety, and the yellowhammer's its Ionian regret. Go on some sun-shot February morning of half-doubtful spring to the commons where the furze draws the yellowhammers, and taller thorn-boughs the chaffinches, and hear them practise their two songs. The chaffinch trips, stumbles, and ceases four or five times before his concluding flourish, for once that he achieves it ; and the yellowhammer's song is still mostly truncated, a mere sibilant prelude. With how much difficulty do these little birds, which have endured the blasts and darkness of winter, build up the songs of spring ! Their music seems secreted from their lifeblood with a supreme effort, which their ardour will not spare them.

Most birds' song is an expression of ardour in defence of home, and wherever either the gilded bird or the rosy-breasted is singing in February, we are likely to find it nesting in April. Since both begin to nest thus late, timing their first brood

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for the spring caterpillars which feed them, it seems strange that they defend their nesting-place so early. The year is full of such distant anticipations ; February music signals May fledglings as the hazel-catkins formed last summer, and now lengthening, forecast the clusters of October. The bunting's far-sightedness is even more marked than the finch's. In August it will still be singing that shy song, and may even be nesting if a dripping summer should prolong spring's freshness. It is six full months from the cold, wet February afternoon, dreary yet light-thrilled, when the yellowhammer takes post to chirp aggressively on the quick hedges, to the August morning when we shall hear him for the last time. A bird that can rear its young in August need hardly begin nesting until June ; but there is a springlike ardour underlying that plaintive patience, as we can tell when we surprise the cock yellowhammer darting in loops of fire round his mate, very early on some clear May morning, when the world does not yet belong to man.

It is the rivalry of the mating season that spurs yellowhammers and chaffinches to complete their difficult though not elaborate songs. Lonely birds are seldom good singers ; each perfects himself by singing against his kind. In the brakes, between winter and spring, we may hear chaffinch reply to chaffinch, or yellowhammer to yellowhammer, in

vigilant emulation. The chaffinch's song is much the less stereotyped ; under constant mutual tuition the chaffinches of some districts learn to insert a rich and varied strain before the essential flourish and fall. This is more than a development of each bird's own song ; there is distinct imitation. Labouring men train caged chaffinches for their singing matches by carrying them to woods where they will pick up a good accent, like English school-boys in Touraine. This mimicry is itself a defiance ; each strives to excel his neighbour. Chaffinches abound in gardens, as elsewhere ; and sometimes, as they flit past the house on spring mornings, they catch sight of their own reflection in a window. One casement, which swung open to face a gutter, was battered morning by morning, until it was partly obscured by the damp, angry bill. Yellowhammers haunt lonelier places, and are unlikely to be thus enraged by a mute, glassy, and indestructible rival. Like nesting peewits, they reveal the site of old commons and wastes. Where the road now runs dullest and straightest across some bare plateau, often stretched the heath ; furze and heather still line the hedges, and here nest the yellowhammers, as they nested when all was wilderness. As we analyse such a transformed landscape, the contrasted fortunes of these two February singers emerge into a sharper guise. As heath and whin

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have given place to fruit-trees, the chaffinch has multiplied and the yellowhammer declined. The sadness of their song suggests that yellowhammers remember a lost England.

February is filled with the year's purpose and promise ; but its achievement is nearly all to come. Titmice pick the glossy aspen catkins, either in hope of seed yet unripened, or in mere wantonness ; and the pheasant eats the bluebell bulbs in the thorn thicket, pitting the mould with small funnels like a potato dibble. But there is less food for birds in the young sappy growths of the new year than in autumn's old gifts ; and since these now grow rare, there are short commons for many birds in a cold February. Flocks of titmice still range the woods with goldcrests and tree-creepers, as they did in autumn, searching, some for seeds, and others for insects ; but their quest is noticeably different and less easy. In autumn and early winter they seldom left the branches, among which seeds, and insects also, were plentiful. In such a feasting-place for the larger titmice as an old hornbeam wood we see the soil beneath the trees thickly sprinkled with halves of split seeds by the end of February. This wealth of husks gives the measure of the impoverishment above ; and when the titmice arrive, chirping and twitching, they spend a share of their time searching the ground for fallen seeds or anything that they may find there.

Insects are now more curiously sought by those elfish companions, the long-tailed tits and gold-crests ; the time is gone when they picked a titbit from every reddening beech-leaf. Insects and spiders are even now more plentiful than one might expect ; but they have crept closer into winter quarters. If we fling ourselves on dead bracken, for dryness, where it has sunk thickly round the brushwood that nursed it up in spring, it is surprising, even in February, what diverse and frail forms of life will flit forth, skip forth, or crawl forth, under the warmth or the pressure. Jenny-wren knows how to thread her way through the crevices of a brittle fern-heap. We hear her mouse-like rustle, and are surprised when a bird slips forth. But most birds seem to fear entanglement in dense vegetation that is difficult to perch in ; sparrows hang baffled above long mowing-grass, not daring to drop, and our titmice avoid the clammy and crumbling interior of the fern-brake. They search instead the small outlying bowers, where even dull human fingers, not earning daily bread, can come in winter on solitary spiders. Untwist that little stunted hazel-leaf at the tip of the bough, which failed to fall in season ; there is the spider, surprised but still nimble, and prompt to find thread for its escape in a minute body which perhaps has never been fed since it left the egg late last summer. Titmice

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and goldcrests search such dry leaves too, and not unprofitably ; and it looks as though many spiders, or perhaps flies, seek winter-quarters in emptied beech-shells. Many of these husks cling to the boughs long after the nuts have fallen ; their glossy socket is a refuge from wind and rain, but not from the probing goldcrest. A moment he flutters at the bough's tip, as if learning to be a humming-bird—there is one deft reach with neck and bill, and off he flourishes in a triumphant scamper of flight.

Birds are said to pair on St. Valentine's Day, and there is a syncopated truth in the statement. Partridges and yellowhammers visibly draw apart in the second week of February in mild seasons. Where in January a covey whirred over the hedge-top, or a golden flock alit in it, we see the common life already ended, and a pair or two of each species guarding the home that they have chosen for spring. But many birds—perhaps all birds—pair for life, and the couples that we see setting up house together, as the hazel-catkins lengthen, may more often be renewing an old bond than forming a new one. At the touch of St. Valentine's wind old homes are found and new ones sought ; and except for birds widowed or unmated, their dispersion from winter flocks into spring pairs is a concomitant less of matrimony than of migration.

The tide of spring migration begins to run many

weeks before the cry of the first chiffchaff signals it plainly from the budding larch-crowns. Already the great crested grebes are returning to their summer pools, and the dwindling flocks of mallard and widgeon on the tideway betray the northward flight. Birds' migration back to their nesting-places in February is marked by the clouds of immigrants that still roam here in the restlessness of winter, because winter reigns in their northern or north-eastern homes. It is also obscured by the way in which departing English birds are followed by foreigners of their own species, so that it is hard to be sure that the linnets or skylarks which we see in February are of the same race as those that rose before us at Christmas. The earliest waves of migration are most perceptible in certain bleak and rugged districts, such as the valleys of the Lake Mountains, where in winter many common birds are missing. Song-thrushes usually leave the centre of the Lake District in November, and return in February ; their absence is the briefest. Most of the greenfinches and meadow-pipits go too, though a few greenfinches and song-thrushes and pied wagtails may remain in sheltered spots round the fringe of the mountains all through winter, and a meadow-pipit or two may be seen whirling across the flanks of Borrowdale in December gales. In the Duddon valley the first sign of spring migration is the

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return in early March of most of the pied wagtails, soon followed by the yellowhammers. Here is a whole chapter of migration before the season of the "summer migrants" opens. The autumn outflow and spring return of many other English-bred birds would be equally striking, if it were not concealed by the immigration of myriads of foreigners of the same species into fields and groves less wind-beaten in winter than those under Scawfell and Helvellyn.

Just as the swallow returns to the coast of Portugal and the Loire valley many days before he visits England, the yellowhammer is paired and singing on Kent and Buckinghamshire commons for about four weeks before he returns to the pastures beneath Wallabarrow. The outward and inward flow of migration overlap, for many weeks of late winter and spring. Flocks of fieldfares lingering on the road to Norway may be seen as late as May. Before the end of June the vanguard of the southward migration is on the wing; grey wagtails, with their vivid yellow bellies, begin to disperse from their scattered nesting-places on southern chalk streams, and the first waders take the warning of the halted sun. Thus the spring and autumn migrations are protracted over at least three-quarters of the year. Flycatchers and turtle doves have not finished nesting before they see the autumn migrants flitting south;

and there is no week in winter when a blast of snow may not drive pigeons and wildfowl into the south, or a soft air and sunshine tempt them a little north again.

Even in winter flocks all traces of attachment between pairs may not be lost. When we watched the mergansers fishing off Studland, it was not difficult, little by little, to pick out the mated birds. When a gull swooped on one of the dull-coloured ducks—the fishermen's "dun divers"—one gaudy drake pursued, with his saw-notched beak outstretched, while the rest remained indifferent. The bond still held that will be renewed far off in April by some Highland salmon river. Goosanders driven from their haunts on inland lochs to a sea bay by a bitter winter showed their attachments as early as mid-January. Certain birds do not usually join in flocks, but migrate in couples. This pretty habit is conspicuous among stonechats, which are as constant to each other in winter by the seaside as in May on some gorse-down not far inland. The accomplishment of this modest homeward journey is one of February's little adventures. One week we see the cock stonechat alighting on a wave-washed pebble to snap at sandflies with pied wagtails and rock-pipits; the next week he flits with the same neat abruptness over the inland furze-sprays.

Flight and song are a bird's greatest charms, and

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few mingle them in one ecstasy. The skylark detracts from its own fame by its abundance and persistence in singing ; no other bird's song-flight quite equals the concentrated energy of throat and wing, as a skylark beats steeply upwards. The curlew's song on the wing is strangely neglected ; there is a conventional fallacy that no singing-bird can be larger than a missel-thrush. Only one other lark and three pipits in this country have a song-flight ; for the snatches of blackbird's or robin's songs on the wing, or the cry of the flitting cuckoo, are but the overflow of their sedentary music. Of this airy band of singers, only the tree-pipit is a summer migrant, and waits until April to leap in music from the ash-tops. When we hear the skylark resume its full February song, it is a signal to search out the scarcer larks and pipits at their summer stations—woodlarks and meadow-pipits on commons and rough hillsides, and rock-pipits on sea-washed headlands.

The endless initiative of nature has taught each of these five species a different habit of song in flight. Skylarks mount from the ground and return to it ; they climb a spiral of heart-breaking steepness, and they sing unbrokenly from just after they spring into the air until the last twenty or thirty feet of their descent. They sing rarely, except flying, and still more rarely from any perch that is higher than a clod in the field where

they are nesting. This concentration puts the skylark's song-flight first of all. The rock-pipit's flight is the weakest and vaguest, though it has a wild and singular sweetness against its background of cliffs and waves. In these February days, when sunshine kindles on the Atlantic, the rock-pipits return to some nook where they will nest among the white sea-campion, and the voice of a land bird draws our attention to the cock pipit tossing aloft on the cliff-face, and falling silent as he descends.

On inland commons in February the still smaller meadow-pipit, or titlark, achieves a song-flight of greater precision. Furze-sprays or heather-tufts make a more definite starting-point than craggy boulders; and the wind's abated violence allows him to steer a course more as he will. His thin, shrill song floats from him just before he reaches the climax of his moderate flight, and is prolonged until he nearly reaches earth again. It is a wilder and less finished version of the song-flight of the tree-pipit—less sweet, less lofty, and less scrupulous in ending on the same spray where the flight began. When tree-pipits and all the birds of summer sing in May, the meadow-pipit's scrannel ditty and spasmodic airy voyage grow scarcer, and are often ignored. A singing meadow-pipit is one of the most characteristic events and pleasures of very

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early spring ; that thin and eager music is in keeping with the wind-plucked drizzle, the first furze-bloom with its fire subdued by the wet, grey light, and the unconquerable far-off promise that thrills a February landscape.

Tree-pipits are often called woodlarks, especially in parts of the North where woodlarks come seldom, and they share the name of titlarks with their smaller cousins. Woodlarks for years have been growing rarer, until the last few seasons ; now they are notably increasing their range again, so that their establishment is no longer very unlikely on any heathy common or rough hillside, partly tree-clad, in the southern half of England and Wales. Their song-flight is less concentrated than the skylark's, and early and late in the year they often do not rise to sing, but warble from a tree-top or a telegraph wire like a tree-pipit in rough weather, or the late season. Where the sun warms the black Berkshire heaths, the woodlark sings fitfully in February from the topmost tassel of a pine-sapling. In a few weeks that woodlark will be touring the sky far and wide, sowing the winds with its unmistakable music. Woodlarks seldom fly as high as skylarks, nor climb as steeply, nor sing with that unbroken flow ; but, while a skylark's song-flight is over in less than three minutes, a woodlark's may last for an hour, and flights of twenty minutes are

common. The song is interrupted, like the nightingale's, and has the same repetition and variety ; and alone among English birds the woodlark shares the nightingale's accomplishment of repeating with regularly increasing emphasis one liquid note. But the woodlark's song has not the nightingale's vigour, nor even that of the song-thrush ; its peculiar charm is a mingling of the compass and variety of the thrush and blackbird tribe with the plaintive sweetness of the linnet.

It is strange to stand on a wide heath which since boyhood was a deep and cloistered wood, and hear it ring with a new voice of such sweetness. There was a time, early in the war, when some thought it was to make all things new and good ; did any one foretell the return of the woodlark ? For many years this was one of our most local birds ; outside a few haunts, a lifetime might pass without seeing or hearing it. Its habits almost became mythical ; doubt began to be cast on the accuracy of Gilbert White's description of it as a persistent night singer. In the last half-dozen years it has peopled much new ground, especially these heaths lately cleared of fir-plantations ; and since few of these plantations were a hundred years old, there is a strong likelihood that the woodlarks have reoccupied their old territory. With a renewal of the stock has come a more eager

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habit of song ; the song has again been heard for hours on summer nights, wrung from the rivalry of increasing numbers. Standing where the boles of the felled trees boss the heather like the stumps of the columns on the turf of a ruined cathedral, it is strange to rebuild the memory of those shades, and the murmur of their woodpigeons. Like so much else, all that is gone ; but the new springs are sweet with the woodlark.

Another happy change in our bird life, very manifest in late winter, is the increase of goldfinch flocks. Many of us who are not very old can remember when the sight even of a single goldfinch was an unaccustomed pleasure. Not all parts of the country were equally denuded ; but there were few where the goldfinch could be called, either in summer or winter, a common bird. Nowadays in many counties it is a familiar nester ; and on almost any walk in winter in ordinary cultivated country we may meet a brightly flashing company, knit into a close unit by weeks of wandering together, and exhilarating both to ear and eye.

This increase of the gayest of our finches is sometimes ascribed to that conversion of English cornfields to pasture which makes wise men anxious. Goldfinches feed largely on thistle-seeds ; and it is argued that the exchange of highly-farmed cornland for ill-kept or half-

derelict grassfields has multiplied thistles. It is true that goldfinches pick the seed-heads of thistles to tatters when they ripen between late July and October ; but, taking the whole year round, they depend on plants too varied to clinch the argument. They are fond of knapweed, or "hardheads," a plant as common as the thistle ; and they seldom pass a tuft of wild teasels, or a branching shaft of burdock or "wood rhubarb." In spring we see them picking the dandelions on our lawn while they are still yellow, or hovering, with wings as bright as the blossoms, at clumps of them hanging high on a bridge. There is little doubt that the present welcome abundance of goldfinches is a victory for wild bird protection. Bird-catching is not extinct, but it is a circumscribed and declining business. Goldfinches are no longer much more than decimated in their autumn and winter wanderings, and are breeding up to their old level.

Few birds make more of a point of revealing themselves to a reasonably alert observer. In summer, as they flit overhead, we see the sunlight shine through the gold panes in their wings as it does in the South through the white splashes on the wings of the hoopoe or wall-creeper. In the feebler light of February, that heliographic signal is rarer ; the goldfinch opens communication with us by its bright and singular cry. All the

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vivacity of the goldfinch's constitution overflows into that clear call ; it repeats it with a joyful vociferation. This signal is like the linnet's call-note, yet strangely distinct in its suggestion of temperament. The linnet's note has the sweetness of earthly regret, the goldfinch's a more than earthly gladness. We hear the sunny call in the sky, and look up to see a pair of goldfinches passing with quick, springing flight ; or else there is a burst of the same notes in chorus, and the golden birds descend with a whirl to a bank of faded knapweed heads.

Most bird-flocks grow more mercurial as winter advances ; and with the memory of their settled life now distant, wandering goldfinches develop almost a hawk-moth's waywardness. Their mobility is fostered by their scanty fare. Like Beduin who dare not linger on their exhausted grazing grounds, they are driven from one rifled seed-clump to another in search of a gleaning which their forerunners have overlooked. As we watch them dismember the black burdock heads, they tear much and swallow little. How many flights of goldfinches must have alighted on that branched candlestick since August began to ripen the purple flower-heads ! More and more, as winter progresses, we see goldfinch flocks alight and forage in the open grassfields ; and we may infer that, when rations grow scanty, they

do not despise hard and chaffy grass-seeds in place of the nuttier grains of their favourite composite plants.

Part of the interest of watching goldfinches in late winter is the contrast of habit between residents and visitors. These alert, wild flocks of from a dozen to perhaps a hundred birds have often wandered far ; goldfinches are among the autumn immigrants from the Continent. But often in orchards and gardens, or along wild, bushy lanes, we see little parties of four or five goldfinches, or even a pair, which still seem to keep in touch with spring's settled affections, and to be uninfected by the larger flocks' wildness. These birds approximate in their winter history to the starlings and song-thrushes, which do not leave our gardens ; they find food in or near their spring haunts through the hard weeks of the year. If the chaffinches' rigorous segregation can be suspended, it is no wonder that there are exceptions to the milder rule which assembles goldfinches in mixed flocks. Flocked birds forget their songs, which spring gives back ; only a vague and inarticulate music simmers from the fieldfare flocks as April guides them home towards Norway. But our English birds sing in their spring haunts, even before they break up their parties into pairs ; and though the goldfinch is not an early nester, mild weather can charm his

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song from him before its time. In February a goldfinch will sometimes sing a subdued and continuous song, like the occasional whispered music of the blackbird or robin, or the rare and fragmentary music of the jay. It is all the sweeter for its lack of the loud summer sibilants that master the song of the goldfinch in primrose-time, when the flocks disperse home.

MARCH

“ ROOKS’ LAW-COURTS ”—GREY WAGTAILS IN THE
HOME COUNTIES—WOODPECKERS AND WRY-
NECKS—ANGRY MOORHENS.

MARCH hears the first chiffchaff from overseas, March swallows and even March cuckoos have been verified in mild seasons, but all new nests in this month are those of our resident species. Rooks and redbreasts and song-thrushes have been familiar all through winter ; now they delight us by a development of character and activity like that of growing children. A building rookery provides entertainment never twice the same. The rooks discuss so elaborately problems which prove ultimately so simple, or would be simple if the rooks did not gratuitously make them difficult. In their building they show less intelligence than that ceaseless persistence which is the prime vital force. Some twigs are pulled from the tree itself, others collected from a distance ; but an inordinate number are let fall while the rooks try to use them, and a dropped stick seems never to be used again. Yet a nest does take shape, a bird’s nest that man cannot

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make, and can hardly even draw with his pencil ; and presently, if we climb to the rooks' nests in some low wood, we shall see the green-splashed eggs dispersed in fours and fives on their grassy cushions, or young rooks with the same solemn expression as their elders, though lacking their bare white faces.

This patch of naked skin at the base of the rook's beak is a symbol of its more useful pre-occupations. No one can quite explain how all healthy rooks of over fifteen months lose their facial feathers. They vanish not by gradual abrasion, but in a moult ; it is an apparent instance of that inheritance of acquired characteristics which science still repudiates. But until it can definitely be shown that the rook's face did not become scaly and bare in the quest of leather-jackets and wire-worms, it is entitled to be judged strictly at face value as a farmer's friend by instinct and tradition. Crows, which are frankly predatory, have feathered faces ; and the pity is that rooks too often forget the purpose for which Nature has framed them, and vie with crows in egg-stealing. This unhappy reversion to a corvine weakness is naturally most conspicuous in droughty springs, when the pastures are baked too hard for digging ; but it seems due also to the increase in rooks' numbers, which has led them, like the increasing hordes of seagulls, to feed on

once strange fare. The other vice of eating seed-corn may be older ; it accords as well as grub-catching with the bare beak. But serious attacks on grain seem also to be a result of over-population, which leads to aggression in the birds' world as in our own.

Most of us who have dwelt within sound of a rookery are grateful for the rooks' gregarious habit, and for their attraction to the homes of men, which is almost as strongly marked. We can picture the rooks of old time collecting out of the forests round the incipient villages, to follow the wooden plough and its oxen over the slowly expanding arable zone. Rooks cawed, we may believe, round the first church-spires, in a language which has remained the same while our own has changed. It is hard not to regard communities so ancient as the inheritors of almost Druidic wisdom, and a social justice riper than man's. When frays arise in the elm-tops, and peckings follow trespass and stolen sticks, it is easy to bewitch ourselves with the conviction that we are watching a court of summary jurisdiction with a procedure which betters our own. With all our love for rooks and their social bent, it must be admitted that these parallels are illusory. Those resonant, outstanding declaimers, that central rook, gravest of all, these are not advocates or judge in any court, but merely three birds of

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ripe years or phlegmatic temper, who are content to watch the quarrel without joining in it. It is true that more rooks than the injured pair will join in chase of the thief ; there is so much community of feeling even among birds of different species when they combine to hunt a cuckoo or owl. As we watch wild nature we see our instincts mirrored often, our institutions seldom ; and interpretations of birds' actions which reflect men's ways too closely soon cease either to convince or to charm.

Nesting song-thrushes approach us more closely even than rooks. English soil and climate are peculiarly to the song-thrush's liking ; such green, moist turf and so many sheltering groves and hedges are not found under every temperate sky. The poet's " wet, bird-haunted English lawn " at once calls up a spotted thrush to people it. To many country-bred eyes that alert, slim form, with its anxious liquid eyes, that swift run and intent, sidelong, motionless pause, were familiar even earlier than the robin. Thrushes in their modern plenty are a by-product of a certain rustic bias in the English people. Although four-fifths of us are town-dwellers, it is our fashion to preserve about our dwellings a relic both of country verdure and of country seclusion. We love the little fence of laurels or spruce firs which pretends to hide us from our neighbours, and the

little lawn kept trim and vivid ; we love them, and the song-thrush loves them too. In the hedge of evergreens he roosts and nests, on the grass-plot he feeds, and somewhere above it he sings. He will perch on the very housetop to sing, like a starling, rather than not proclaim his pride in his and our garden, when the west wind drives off winter, and its moist, mild breath brings the fragrance of far-off grassfields quickening with spring, like the scent of country life long ago.

In other temperate lands the song-thrush's taste for dewy mildness makes it a rarer settler. We shall not travel far from this grey, cool, north-western fringe of Europe, with its frequent summer rains, before losing that emphatic song. The more abundant each song-bird, the fuller and more resourceful its voice becomes, for birds sing against each other, and gain in skill both by direct imitation and by the stimulus to their native impulse. In an Artois beechwood, sweet in May with orioles, one song-thrush will sing abashed and thinly. All up those vivid grass lawns of the limestone Jura, where the glades between the silver-fir boughs are lit by the tall yellow gentians, the place of the thrush in every bush-clump is taken by the butcher-bird, and the thrush is as scarce as the butcher-bird at home. Not grass, but the worms beneath it, is what draws the thrush, and on those porous slopes

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worms are scarcer than lizards. In the hot hayfields above the grey Swiss Rhone, where even the butterflies search for spilt moisture, we turn at last under hazel and alder boughs to a thread of water falling in the shadows, and there in the coolness is a thrush. In England beneath all a thrush's timidity there is assurance too ; but these lonely foreign thrushes seem without confidence ; they flit like ghosts at sunrise.

A close observer has noted that hen robins sing. But such presumption among the hens of song-birds is exceptional ; I know no record of a singing hen song-thrush. The two sexes are even harder to distinguish than those of most other birds garbed alike ; and the shyness of the cock song-thrush gives him a feminine air unlike the burly boldness of the cock robin. In sheltered spots, and in mild seasons, the first thrushes' nests are often finished before the end of February ; the same wet weather which sets the birds singing helps their nesting, for, like house-martins at road-puddles after June thunder-showers, they can then get mud from every ditch and rut. Mud is chiefly used in the nest's foundation, and not, as is often said, for its lining, which is usually plastered with wet touchwood. The blue eggs in that brownish cup are conspicuous to our eyes ; but a nice sense of colour is a recent human acquisition, and to jays and squirrels the song-

thrush's eggs may be no more apparent than others, owing to their likeness to the plastered lining, not in hue but in depth of tone. Like the first snowdrop and the first primrose, the sight of the first thrush's egg is one of the pleasures which familiarity never destroys. The familiarity is mutual, but qualified on the thrush's side. Season by season the "hatching throistle's shining eye" is as full of faithful alarm as when we saw her first, and her singing mate as timorously vigilant. Though we share so many tastes, and they dwell so close beside us, thrushes are wild birds still.

Grey wagtails remain in England all the year, like our nesting rooks and thrushes ; but they have a regular internal migration which brings them back to us like strangers. In March the flash of their sulphur plumage betrays where they will soon be nesting. By many hill-streams of the north and west it is an open secret, for they return with the fidelity of the robin, or the two fly-catchers, to the sound of the same waterfall year by year. But beside the Hampshire chalk streams, or the sandy or pebbly brooks of Sussex and Surrey, they are more recent and less habitual settlers, and they charm doubly by the uncertainty of their allegiance. There is a delight in the naturalisation in these lowland haunts of a bird so lovely and so vital. For of all birds that

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haunt the rough streams of the west the grey wagtails are the most full of their own spirit ; they add a dash of hillbred wildness to the lowland rivers.

These are the most water-loving of our wagtails, in east and west alike. The yellow wagtail will nest far from the streamside, in hayfields or strawberry gardens, and the common pied wagtail in the ivy on our house-wall, or in an old thrush's nest. It is rare to find a grey wagtail's nest anywhere but on the very brink of a stream ; and it seeks the place where the water runs strongest and the spray leaps highest. Its love of rough water is remarkable for a bird which is no diver or swimmer. By the hill-streams we find its nest perched on the rock-wall beneath a cataract or beside a rapid, or beneath a bridge which strides the narrow water, and intensifies its flow. When the grey wagtail colonises the quieter streams of the south it retains the same instinct. After the flame of its plumage shines brighter, and it begins to choose out its summer lodging, we find it daily beside the mossy wall of the mill-tail, or where a white spout leaps from the sluice in the water-meadows beside the split camp-shedding. Country mills and sluice-gates for water-meadows grow fewer ; but so strong is the grey wagtail's impulse to people the south that it will nest by any bridge that forms a semblance of

waterfall or rapid. However sluggish is the stream, it likes to nest where it runs quickest or falls steepest.

Wandering members of a tribe nest later than those with a fixed dwelling, and the grey wagtails of the south and east are partly vagrants still. Many Welsh birds will have done building by the end of March, and have eggs early in April ; but those of Hampshire or Berkshire are often a good month later. This uncertainty adds to our zest in watching them ; it is the long conflict between attraction and alarm that best displays their mercurial spirit and bright plumage. We see the hen bird perched, flashing, upon the wet sluice-gate, while the cock, as if appalled by her imprudence, vanishes chattering over the mill-roof in looping flight. Half abashed and half careless, she follows him ; and they may not return to the sluice-gate all day. But next day they will be there, and the day after ; and soon we learn to distinguish at first sight the cock bird, with breast and belly and under tail-feathers yellow like charlock, or almost as golden as a buttercup, from the cowslip-coloured hen. Cock grey wagtails, since we watched them at Christmas, have put on a smart black bib ; some hens wear a slight dark ruffle, the throats of others are plain yellow. Both cock and hen are more brilliant than the summer wagtail, or cowbird, which

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comes in April ; but the green-backed cowbird has seized the name of yellow wagtail, and they are left to take the name of grey wagtail from the pied, which might as fairly claim it. In parts of Kent and Sussex fortunate observers may discover a nesting-place of the blue-headed wagtail—one of the many varieties of the cowbird which, with crests of diverse colours, are scattered over Europe, and beyond. Rarely in summer, but more often during the autumn migration, we may see the white wagtail, which is a paler variety of the pied wagtail, and in parts of Norway is the commonest household bird about the farms.

Of all these wagtails the grey wagtail is the most wagtail-like. It wags its tail better, because it has more tail to wag. Even when, after weeks spent among the fogs of Chelsea or Hammersmith, its colours become indistinguishable from those of a pied wagtail, we can tell it by the greater length of its tail, as it flies across the smoky river. It makes most show of the wagtail's vivacity, because the plumage that it expands and flourishes is the gayest. To find its nest is easy, for it will be close to the cataract, and no bird makes more display of its alarms. When its nest or young are approached it will sometimes flutter, as if paralysed, divided between solicitude and fear. Here we see the crude and untutored beginnings of that pretence of being crippled with

which a hen wild duck will so cunningly divert from her unfledged young the attention of dog or man. In the wild duck, and certain other birds, the whole performance is so methodical that we can hardly doubt it is deliberate. We have seen one of a pair of shelduck scramble painfully, and, as if maimed, across the mud-banks while the other parent and the young made off quickly another way. A barndoor hen that had "stolen her nest" and laid in a shrubbery so far regained wild instinct as to trot repeatedly away from the eggs and back again when first she was discovered; she showed division of purpose, without either cunning or distress. The grey wagtail surprised with her young shows distress, but no cunning. It is the naked struggle between mother love and self-interest. So acute is it that we shrink from prolonging it; yet we too are torn by mixed motives, and it is hard to leave the rocks and the rapid before discovering the nest or young. If the young have flown there is no clue but the birds' own wildness, for the young bird shrinks mute at her cry. At last we find him, wide-eyed on a mossy island; his tail is yet scanty, but he wears in it his badge of yellow. Of the four or five birds hatched, only one is left already; the hill-stream and its rough banks claim many victims, and about midsummer in the wilder vales we have seldom seen a family

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party of half a dozen, as one does by the Hampshire chalk-brooks. Doubtless these wagtails did not settle in the south in order to lower their infant death-rate ; but this result should help to consolidate their colonisation.

Birds still passing to their nesting-places diversify the wide March day. Pied wagtails follow the river-valleys in flocks ; throngs of field-fares accumulate in the Chiltern beechwoods, following the chalk range to the North Sea. Weeks ago the great crested grebes, with their wild horned masks, came to the ponds in Richmond Park and to many more rural breeding-places ; but still these strange birds appear singly or in pairs on old decoy ponds and on urban reservoirs, restlessly roving with a look of being too small for their kingdom, like Napoleon on Elba, until night comes, and they, too, flit. On small pools, where it wears out the March day, a great crested grebe appears doubly large and doubly vivid. We are used to watch its postures in wide waters, where they are subdued by the multitude of the ripples and the arching sky ; these frowning gestures are portentous on some lonely pool among the heaths and woods, where the little teal is a visitor of moment. Their colours gain in emphasis with their size. That halo of auburn whiskers gleams brighter ; their breasts cast a long white ray down the water, like the bordering birch trunks.

Laggards, or young birds still unmated, they bring life for one bright March day to waters too narrow to content them, and depart under the starry sky.

With this search for nesting-places comes a keener jealousy. Birds' fights in winter were chiefly a passing tussle over food ; as spring quickens, they become more frequent and elaborate, and are mingled with the graces of courtship. See those two moorhens pacing by the pond, with wings and tails lifted like banners, and long necks thrust out as if to strike ! All this show of fight seems meant to display the white feather ; yet moorhens can grapple fiercely with their long pliant feet. One missel-thrush will scatter another's feathers, and the resentment of the cock chaffinch which stabbed its own image in a window lasted for many days. But with most birds a little wrath suffices, and the end is gained. It is the same with the great birds of prey as with these half-tame moorhens. When the raven drives the buzzard from his seaside eyrie, the hawk turns mewing on his back, and the raven returns with slow beats to his rain-beaten rock, contented that his rival has dipped his flag to him.

As the first glint of green comes to the willows, climbing-birds grow exultant in the high boughs. From the south comes the wryneck, called the cuckoo's mate, though he often outstrips the

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cuckoo ; but before he tells of spring with his insistent repeated cry, our own nuthatch and woodpeckers are clamouring. No true climbing-bird has a set and modulated song, and the nuthatch, though by race a song-bird, seems to have forsworn its hereditary music when it took to scrambling like the woodpecker. So, too, the song of the tree-creeper is rare and ghostly. But the laugh of the green woodpecker, that daily grows more musical, is one of the most cheerful of spring sounds ; and the nuthatch's bright repeated call, that rings from the upper boughs all through mild winter weather, assumes on warm March days some unexpected and deceptive developments.

The nuthatch shouts as it shifts among the elm-boughs until it half persuades us that it is not one bird but three. First come the normal notes—the call of a nuthatch confessing itself a nuthatch. Then there follows a sequence of staccato cries that sets us peering for the lithe body of the mottled wryneck—but doubtfully, for this voice is scarcely as loud as a wryneck's on a warm morning, and a shade more musical. The same cry is again repeated, but at longer intervals, and more emphatically. Then, when we have decided against the wryneck, and are smiling how nearly the nuthatch has deceived us, there follows a quick loud repeated ripple that is neither the wryneck's, nor, surely, the nuthatch's, and almost inflames us

with the hope of a bird new to our grove. But it is the nuthatch after all, the nuthatch at the height of its nesting ardour, on fire with the delight of appropriating some rift or crevice in the old timber. All day he rings the changes on these cheerful and varied calls, while the buds bulge larger on the sycamores, and the seed-films float from the fir-cones cracking in the sun. When he falls silent, as the evening chill blows over, we are pleased to have learnt his spring repertory, and to think that he will deceive us no more.

A year passes, with its songs and its silences, and when March once more signals April we are faced with fresh riddles. When December stripped the last of the oak-leaves we may have learnt that the little spotted woodpecker is a winter singer—to credit him, in a songless time, with song. We have heard that peevishly repeated clamour—“ You shall, shall, shall, shall hear me ”—among the bent black branches ; we have even seen the little black-and-white climber looping its heavy flight ; and we are confident that with the eye to clinch the ear’s impression, we shall know the voice of the lesser spotted woodpecker among all the cries of spring. Alas for human vainglory ! Late March comes—with days far colder than those mild confines of December—and again we hear, from a group of cankered ashes on the hill before us, that petulant repeated cry. The sus-

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picion that this may be the first wryneck is dispelled by its half-heartedness. "No wryneck would call so feebly ; a lesser woodpecker." As we approach, a wryneck stretches its neck like a snake, and, in full pomp of uncanny gymnastic, parades down the ash-bole, then flits to a bare bough. All is well ; it is good to see the shy wryneck, and to see it so early. Another year we shall know that a cold, tired, new-come wryneck may call no louder than a lesser spotted woodpecker.

Green woodpeckers are the giants of their race ; the greater spotted woodpecker looks about the size of a starling, and the little one of a sparrow. Both have large heads, to fit their hacking beaks, and both are freakishly piebald, the little one the more fantastically. The great spotted woodpecker mimics the wryneck less than the little one ; it prefers a stranger mode of expression. All three woodpeckers drum in spring on dead timber, but the large spotted one does it habitually. In spring he is heard far more often than he is seen. That loud vibrating rattle, like a drum-roll, can be heard on a calm spring day for many hundreds of yards. At least one good naturalist believes that this is a vocal cry ; but most agree that it is produced by the rapid jarring of the woodpecker's beak on wood, and the bird has been watched during the operation. It is strange that more

observers have not seen, as well as heard, it, but the great spotted woodpecker remains a shy bird, even when it learns to visit a London garden for a dole of hazel-nuts. It has a genius, when we follow the sound of its jarring, for remaining on the other side of the tree. This jarring is the woodpecker's substitute for formal song, like the wind-music that the dropping snipe strikes from its tail-feathers.

Singing migrants announce themselves more promptly in mild weather. It is a sign of a cold spring when we see the chiffchaff before we hear it, for when the air is warm it begins to chant indefatigably among the blackthorn bushes and larch copses from the morning after it arrives. Its voice spreads immediate news of its presence ; but it may lurk shivering for many days in the shrubberies before we catch sight of that slender, summer-like form. With the wheatear—the chiffchaff's commonest rival in the annual race for England—it is the song that is secretive, and the bold grey figure and salient habits that importune the eye. Wheatears haunt the cropped turf of sheep-downs and commons, where daisies now open thickly, chiffchaffs the brakes soon to be leafy, where the minute crimson stars of the hazel still woo the pollen-bearing wind. Thus the pioneers of the great spring immigration divide the land between them, and with new forms and voices

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proclaim in open and covert places that the hosts of summer are on the wing.

Though the chiffchaff's cry is a sure signal of their coming, it is impossible to be certain that the first chiffchaff has not stolen a march upon its rivals by staying in England. Chiffchaffs, wheatears, blackcaps, ring-ousels, and stone curlews—all the earliest immigrants—stand barely on the bounds of the group of birds which must leave our land in winter, and sometimes outstay it in the mild south-west. I have watched a chiffchaff flitting, songless, in mid-January within sight of the Bournemouth cliffs ; and when the blackcap comes singing to us, as though fresh from Cadiz, it may have wandered no farther than South Devon. Stone curlews do not sing, but pipe by night on the flinty chalk downs ; and when we first hear that wild call, or see the gaunt runner with its outstretched head, then too there is a doubt whether it spent our winter fog-time with the bustards among Spanish cornfields, or in some combe between Hartland Point and the Lizard, within sound of the creaking gulls. Among all these five species which herald spring, the best claim to a clean record of absence is the wheatear's. He stays late and returns early, but there is as yet no convincing evidence that he has ever endured the whole of an English winter.

Now that accurate observers are increasing, it

is possible that the same wheatear may soon be watched in some warm south-western valley from its arrival in autumn until it disappears, in good heart and high feather, under a warm sky in March. There is a tantalizing inconclusiveness in the records of certain other spring migrants that sometimes try to winter in England. House-martins have been seen flying so late in the winter in sunny south-western sea coves that they clearly made a bold bid for survival ; but storms intervene, the birds are not seen for a time, and when a house-martin appears in late March we cannot be sure that it is the same bird which we saw in the same place in December or January. The wheatear's chance of survival is far brighter ; he has a Gallic taste for snails, and of these, much more delicate than any *escargot*, there is an abundance lurking all through winter on sea-cliffs with the rubbly limestone soil that shell-snails love.

Chiffchaffs sustain themselves in a cold March by searching buds and twigs for latent insects with the goldcrest's microscopic intentness. Blackcaps, to the surprise of the observer, find an emergency ration in autumn's tarnished ivy-berries, left over by the guzzling woodpigeons. Though they are insect-eaters by spring habit, I have watched blackcaps bolting these black-lidded pilules even in France and in May. All birds which anticipate the appearance of their staple

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diet with impunity must have some second string, and the food of the first cuckoos is one of the lesser puzzles of the March migration. March cuckoos have so often proved to be a bricklayer or a school-child that they have fallen into exaggerated discredit. But cuckoos have been both seen and heard in March by unimpeachable observers in some of the southern counties where they reach land. Cuckoos have been proved to feed chiefly on hairy caterpillars, and their normal appearance in April coincides with the emergence of the half-grown caterpillars of the drinker moth from their winter sleep, and of the shooting of the grass stems. The drinker eats the grass, and the cuckoo eats the drinker—all is in trim in a fine April. But how does the cuckoo fare in March, a good fortnight before the stems of the foxtail shoot, even in an early season, and the furry worms creep from the earth's woven coverlet? How long can a cuckoo fast? A young cuckoo has been found in England as late as December; and since furry caterpillars here bury themselves by early October at latest, it must have possessed considerable powers of abstention, unless it had food which we do not know. Either the March cuckoo goes hungry into April, or, more probably, it can eke out a subsistence on the smaller winged and creeping life of the trees and bushes, as lost wanderers live on roots and berries.

APRIL

THE MIGRANTS' COMING—JOY IN NESTING—BIRDS'
TASTE FOR COLOUR—CAVE-MEN AND SWALLOWS.

IN most years the first spell of warm weather in April lavishes migrants on ear and eye ; yet part of the charm of the summer birds' arrival lies in its elusiveness. One night the wood is dumb, the next it vibrates with the nightingale. The cuckoo calling at mid-day among the elm-boughs seems to have slipped into them without the weariness of a journey. There is an interest in prying into the art by which such birds conceal their labour, and appear, in most inland places, as spontaneously as the flowers.

Most migrant birds travel at night, and rest and feed by day ; and though there is light enough for them to direct their course, seldom can we see them, as in a Japanese drawing, silhouetted against the peephole of the moon. Where the waves of migration strike the coast many small birds are so weary, when the light comes, that they can almost be picked up in the hand. They must make shore without resting, or they must perish. Once landed, they travel more leisurely ; and they have two

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methods of advance. The difference is largely one of numbers. When migrants are moving in large bodies, they often travel on a wide front ; at the height of a great inrush of willow-wrens, they sweep in thousands, or hundreds of thousands, across the wooded Sussex or Surrey ridges. These movements abreast are probably most common, and certainly most conspicuous, in favourable weather ; they display migration in full flow. When cold winds discourage the advance, and check supplies of insects, these wide-flung armies are arrested ; they tend to break up and seek temporary shelter, or push more slowly forward by circumscribed migration routes.

River valleys are the most marked of such routes, for more than one reason. The bordering hills give shelter in cold weather, and the winged and creeping insects of April are most abundant beside the watercourses and in the fringing copses. This lure of food is reinforced for water birds by congenial surroundings ; and since even terns, though they are sea-birds, cross from coast to coast of England along the rivers, their banks, and sometimes the passes that connect them, are often thronged with migrants. Unlike the movements on a broad front in fair weather, the greatest abundance of birds are often noticed along defined tracks and in sheltered halts, when the wind turns wet and chilly. Thus we may easily mistake a

check in migration for the movement in full flow. At other times a continued spell of fine weather may fill, night by night, the birds' resting-places with a shifting succession of guests. Port Meadow, beside the Thames above Oxford, is one such favourite haunt ; it is the gateway from the south of England into the Midlands, and here halt dunlins and sandpipers bound for the northern mosses and streams, as well as yellow wagtails which will nest beyond the Thames watershed.

Those who knew Rouen during the war may remember a flat wet tract of tree-dotted meadows beside the suburb of Bapaume, where weirdly-masked transport-drivers were led through gas-trenches. Here beside the Seine in April rested redstarts, yellow wagtails, tree pipits, corncrakes, and other migrant birds before pressing, so it seemed, through the gap in the chalk hill by which the railway seeks Havre, and breaking away to the north for the Channel. There, and there only, have we stumbled on a migrating wryneck hidden in a grass-tuft, and almost too weary to flutter up to the nearest willow-tree. A green sandpiper flushed from a neighbouring ditch seemed hardly less travel-worn.

French landscapes are framed on a large scale, and perhaps necessitate longer journeys between good resting-places than birds must face in England ; else it is hard to explain why birds

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reaching the Seine Valley from the south should be so weary. Perhaps to move by night is more exhausting to most birds than by day, as more unfamiliar to their usual habit. Certainly there is small sign of strain or hustle in the movements of swallows and martins, which are day migrants, once they are fairly started on their course. House-martins recrossing from the coast of Kent to France on a fine August morning fly lower—if the eye is not tricked—than often when they hunt for flies over Ouse or Cam. So it was, too, with the earliest swallows I remember seeing in England, before March had ended. A little band of four or five was slipping north-westwards up the Severn Valley in South Gloucestershire, as if making for the Wye Valley, and the routes by which they reach so early the west midlands. They seemed almost to be loafing. Swallows have actually been proved to migrate at less than forty miles an hour ; they know how to conserve their strength by command of easy motion.

The moderate speed of most birds on migration seems to dispose of such stories as that birds can fly from Morocco to England in one night. They fly much quicker when pursued or pursuing than on the spring or autumn path. Between mid-April and mid-May we can easily observe how the cock birds of many species arrive singly. Some of the most easy to distinguish are the cock black-

cap and whinchat and butcherbird, and the cock redstart and pied flycatcher. Such a separation on the journey does not disprove the conjugal fidelity of small birds which have survived winter's perils. The old nesting-place may be the rendezvous of each pair ; to the delights associated with that nook amid England's spring verdure they are drawn, though it may be unconsciously, across hill, plain and sea.

More birds build new nests every spring than repair old ones ; and when cold weather has kept them inactive, with the first change of wind into the west they fling themselves into their pleasant labour. There are many signs that the nesting of birds is less of a task than a delight. Nothing prettier can be seen than the first meeting of a pair of some migrant species, such as the pied flycatcher, at their nest-hole in a birch or alder by a northern or western trout-stream. This magpie-like little flycatcher has been restlessly fluttering from spray to spray across the river, and beginning and breaking off his song, for several days before his plainer mate completes her journey. He welcomes her to the old knot-hole, calls her in by appealing and caressing little strains, and half the morning is spent in vivid sallies out to the twigs of the nest tree in the wood, for the pleasure of coming home again.

These local little flycatchers illustrate the joys

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of renewing household life with special vividness because of their graceful vivacity and their tameness. If we keep quiet, and make no remarks of our own, we can watch all the exhilaration of their reunion, sitting at ease at the very foot of their tree. Not all birds are so indifferent to spectators of their joy, or choose a home with so open an aspect. But every day in April, though best on its warmer days, we can watch our home-keeping birds, as well as those that have made the double African journey, spin their twofold thread of courting and nesting. Two-thirds of it may be finished each day before we are up and out to see it. The normal time-table of most song-birds on a fine spring morning is to acclaim the sun with massed chorus, to feed afterwards with almost equal earnestness, and then to turn to nesting and love-making, with more music. But while building is at its busiest, enough birds return to it intermittently until the time of their second regular meal, before sunset, to give many a delightful moment. Cock robins in autumn and winter are both solitary and savage. But now in April, with his old mate to make welcome, or perhaps a new one to captivate, a cock robin will sometimes feed her as tenderly as a nestling, while she copies, or indeed may inwardly experience, the helpless dependence of a young fledged robin, and mimics the shivering appeal of its half spread wings. This

pretty show is apt to be mistaken for an old bird feeding its young ; but no young robins are red-breasted in April.

Like scenes of affection diversify the actual nest-building. If we watch birds building during the next few busy weeks we may be lucky enough to see the cock offer his mate some scrap or leaf or weed, not with the sober intentness of one who is helping to get the work done, but with an air of rapture and gallantry, as if it was a bouquet of orange-blossom. Often the nest at first grows slowly, for half the birds' time is spent in courting, not building. Nests are playgrounds, which only later become cradles. It is usually the hen who packs and smooths the walls with her beak and breast ; but when we regard nesting in its true light of a fête, most cock birds contribute their full share of gaiety. Watch the white-bibbed water-ousels raising their mossy walls in the throat of that fern-crowned alder leaning over a glassy chub-pool. Away spins the hen, and returns with a wet green tuft. The cock hops aside to pour out his clacking wooden notes, like those of a Zulu piano, while his mate busily twists the moss-tuft into place. Hers is the art to make wet moss cling like clay, and his the music. Both parts fulfil use and joy. The more we watch cock birds offering the hen fragments for building, the more the action suggests that spasmodic tossing of a leaf or stick

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or straw which is often part of their most passionate courting. Courtship and nesting are part of one rapture.

Birds have no tools for nest-building, except their bosoms and their beaks; and although their beaks have been framed in a wonderful variety, their prime purpose is not nesting, but feeding. A woodpecker can bore its cradle in the tree because its bill is fashioned for hewing out the larvæ of beetles. But the beak of many other birds appears a positive impediment in shaping their characteristic nests. If from beaks of all patterns we chose one for the chaffinch or goldfinch, as a help in weaving moss and spider-web, we should surely give it some slender and delicate forceps like that of the tree-creeper, or one of the slighter warblers, and never that short, stout cone, formed for crushing seeds. Sparrowhawks twine a nest of twigs with a bill hooked for tearing flesh, herons with one prolonged and pointed for fish-spearing. The kingfisher's bill, long and sharp, which nips minnows like tongs, is found stout enough for boring a burrow in the bank of the river, while with a supreme disregard for its apparent natural limitations the sand-martin drives a similar tunnel through harsh and gritty sand with soft mandibles shaped for snapping up small flying insects. The diverse contrivance of birds in nesting seems to spring not



Oliver G. Pike

CUCKOO IN REED-WARBLER'S NEST

Often the crushed nest barely supports the growing bird

from the foresight of Nature but from their own volition.

Most of us have seen in museums the mazes of brushwood decorated with bright toys, such as shining pebbles or coloured feathers, in which the bower-birds of Australasia woo their hens. These elaborate pavilions seem to have been developed in one direction out of the primitive love-offerings of sticks, straws, and leaves, and nests in another. The bower-birds' nests are separate. English birds build no Austral bowers, but there is many a suggestion of an eye for beauty in their nest-building. Some of the evidence has been curious and obscure. Shining quartz-like grains have been found sprinkled in a kestrel's nest, and red seeds laid with some apparent care on the protruding side of a black-bird's. It is possible that both grit and seeds had been swallowed ; but eagles do not eat herbs, yet the green leaves often added to their nests, as the hen sits out her weeks, and the young wax lusty, have all the look of an embellishment. Does not the house-sparrow which snatches a scrap of red flannel for its nest show its appreciation of colour ? A beautiful habit of the long-tailed titmouse and chaffinch has been touched on already. They spangle their nests with white lichen, and this is explained as a habit which has helped them by concealing the nest. A long-tailed tit's

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nest in the fork of a lichened willow is indeed well hidden, and so is a chaffinch's on an apple-bough ; but in a holly-bush, or among the green buds of a hawthorn hedge, the sparkling lichens do not blend with their surroundings, but contrast with them. Where the alleged means of concealment conceal so ill, it is reasonable to look for another motive ; and this may be the sense of beauty. Chaffinches may coat their nests with lichens for delight in their silver sheen, just as magpies and jackdaws steal spoons, and bower-birds attract their mates with bright feathers and pebbles. How does a rigidly utilitarian explanation of all birds' nests account for that buzzard's nest so profusely decorated with the blossoms of the mountain ash that it was conspicuous from afar, or for a nest of the heather linnet or twite decked with a single conspicuous feather ? It is too plainly a distortion of the facts to attempt to explain such embellishments as attempts at concealment. Since natural selection cannot originate the habits on which it works, we are left to conclude that the long-tailed tit and the chaffinch began to use bright vegetable stucco either as a precaution or as an adornment. Surely the impulse is more likely to have been æsthetic than intellectual. An infant will stretch its hand for a bright thing long before it plots by reason. To say that the birds' trick is inherited does not help

us, for the problem of how it originated remains the same. There is good ground for the belief that birds admire their spring handiwork much as we do. They may admire their eggs also, though so far we have no ground for supposing that they have any control over their varied pattern and colour. Eggs are marked and coloured by deposits from the oviduct bestowed with Nature's unstudied freedom, and only partly controlled and modified by protective selection. But the design of the nest is primarily in its maker's control ; and beneath its main practical object as a cradle for eggs and young there breaks a glimpse of it as a honeymoon palace.

It is fascinating to train birds' instincts to our own desire ; and even the fickleness of a bird at nesting-time can often be overcome by unobtrusive assistance. Nesting-boxes are by this time a familiar attraction of spring gardens, and make the most natural aviary. Four kinds of titmice are their most frequent colonists, but boxes of special size and finish will lure scarcer species. Nuthatches prefer boxes made with large, rough holes, to allow for their rooted habit of half-blocking them with a tough mud plaster. Wry-necks prefer a deep box, lightly sprinkled with touchwood, on which their white eggs lie bare ; while the brown owl will nest in a barrel among the branches. Certain other birds can be helped

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by gifts of nesting-stuff. If we pull to pieces old heads of pampas grass and scatter them in the shrubberies, at once the white fluff may reappear in a greenfinch's or hedgesparrow's nest. When the flycatchers come they can be tempted by ends of embroidery silk to build a nest, not, indeed, more beautiful than their native fabric of cobweb and fine moss, but more brightly curious. One pair in the garden of a fishing-inn built much of its nest of scraps of gut-cast snipped off by the fishermen. Sparrows nurse their young on beds of coarse household litter—torn letters, scraps of wadding and flannel, and bits of tow and string. Slovens themselves, they inflict on us when we dissect their nests a sense of our own untidiness.

Many nests are found easily while the boughs are still unclothed around them ; but it is plain even in April, to every patient watcher and listener in a bird-haunted garden that there are many nests which the builders have not chosen to reveal. The best way to find nests is to keep the whole nesting-ground under constant observation ; all newcomers are then noticed, and their preference for a certain clump or corner gives a hint. When looking for nests approach by fresh paths and change the angle of vision. In threading thickets and thorns there is a strong unconscious temptation always to follow the same track, as cattle or

rabbits do. A nest once missed is apt to remain missed, however often we pass. But by resolutely forcing a new track, and putting new branches between the eye and the sky, nests are found in unsuspected places.

Year by year, as we grow more familiar with the summer migrants, the ear grows alerter. We learn to hear the swallow almost as readily as the cuckoo, and are quick to register that gentle yet eager song of summer that guides the eye to the well-loved flight. Swallows are the airiest of birds, yet the friendliest ; and man, who has so lately and laboriously learned to fly, is still pleased, and a little flattered, when they nestle against his dwellings. As they stoop and recurve in his alleys they move with a lightness excelling other flight ; they bring us an obeisance from the air, and we respond to it with protection.

Swallows have become the nimblest fliers by their mastery of free and frictionless curves. In the combined feat of flight and song they are excelled by both our native larks ; yet the skylark's ascent is laboured beside the swallow's rushing circles, and the woodlark's flight rudderless and vague. Swallows do not soar on fixed wings, like buzzards or eagles, or even like seagulls ; yet compared with the swallow's freedom in every plane that broad-winged buoyancy has the limitation of a balloon or a kite. Soaring birds

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are dependent on air-currents, which the swallow ignores. The swift far outstrips the swallow in sheer speed ; but from its size and momentum it has less control in cramped spaces than the swallow kind. Lowly as are the eaves under which it often nests, and trivial the crevices into which it plunges, it needs a broader passage for its onset ; and although it nests as regularly in the constructions of man as any house-martin or swallow, it hides its eggs and young so thoroughly that it seems to avoid us, and remain a wild bird still.

Our affection for the swallow has been enhanced by our gradually increasing knowledge of its fidelity to its home. We have long known that swallows often return to the same nests in successive years ; so much was established by the recognition of birds with abnormal plumage, or by binding them with parchment or silk. But only lately have English and Scottish swallows marked at the nest been identified in their winter home. Half a dozen swallows have now been reported from various parts of South Africa, and one in the Belgian Congo ; so far do they travel between their twitterings in the summer cowshed. Like evidence of the winter range in Africa of our house-martins and sand-martins is still lacking ; perhaps none has yet been identified because fewer are marked, or possibly a larger proportion of these two species winter in less civilised

districts, where, if a negro chanced to kill a martin with a ring on its leg, he omits to notify London. Until the last century, simple and learned alike believed that swallows spent winter in a frog-like trance in pools and rivers ; and the extreme improbability of birds so tender twice crossing the seas was urged as evidence against migration. But swallows do not fear to cross deep water ; our earliest birds arrive on the south-west coast, and by this route reach the west midlands before the eastern counties usually see them. Light and life, instead of torpor and mire, but at the cost of what a journey !

Swallows accept stable or sty as a substitute for a cave ; house-martins treat eaved walls as rocks conveniently overhanging. So thoroughly have both birds adopted us that it is rare now in England to see either nest in the old wild site. Yet groups of house-martins' nests can still be found on seaside and inland cliffs ; and not many years ago a pair of swallows were found nesting in a mountain cave in Cornwall. Sand-martins still cling to their tunnels in the loamy banks of rivers, though they, too, accept man's aid and build in sandpits. Where sand was lacking they have nested in pipes in walls, and even in rotten willows. Swallows build an open nest in their cave-like shed, house-martins, on a rock or under the eaves, prefer a closed one ; and their eggs

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conform to the rule of the situation, those of the swallow being darkened with freckles, while the house-martin's, like the sand-martin's and other birds which nest in deep holes, are pure white. The patterns of swallows' and house-martins' mud nests are not universally fixed; they vary perceptibly with the accommodation which different lands provide. Under British eaves martins built the nests familiar to us—globes of mud pellets sliced to fit the angle, and all but closed against weather; but memory recalls beneath the Prætorian Gate at Aosta a martin's nest in the niche of a fallen stone which was prolonged into a wide-mouthed tunnel, to admit and not to exclude Italian air. Even in our own land there have been great changes in the swallow's nesting as the old wide chimneys contracted and ceased to shelter "chimney-swallows," while farm buildings of rough wattle and plaster, offering no sure foundation, gave way to firmly joisted sheds. There is an odd difference in the use of the wide vaulted arches which both birds affect; in this country—perhaps from its dimmer climate—church porches and college gateways appear chiefly as caves to the swallows, while under their lighter skies the arched entries of old French farms are adopted by martins as cliffs.

That slight but happy song of the swallow, and the house-martin's homelier chuckle, ring on the

ear through ages of human association, and may truly be said to have been diffused by man. It is far from certain that there has been such a general recent diminution of the swallow and house-martin in English country districts as many suppose. Numbers fluctuate, and the most plentiful year is treasured in the memory, and misleads. But there is little doubt that both birds have been naturalised by the act of man in all but the mountainous parts of the country, or those with abrupt and rocky cliffs. There is no natural home for swallow or house-martin in all the softer shires. Fashions of building have borne on the two birds differently, and made the house-martin more urban. In towns open buildings are rare; in barring our doors against thieves and prowlers we exclude the swallows also. House-martins still nest on the red fronts of Chiswick villas, or did so very lately; and they have only left central London within living memory. Only our last development of civilisation—this crowded industrial epoch—is inhospitable to the swallow-kind, and their song is still companionable because we have heard it each spring since we were cavemen.

The gulf of time since we first learnt to welcome the migrants is partly bridged for us when they colonise some ancient dwelling. Every year April leads back its migrants from Africa to the

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heart of a western shire, where the twin fishponds of a derelict grange lie deep in a limestone valley. The farm and its outbuildings have all but perished, and attract few birds to-day; but the long neglect of man has ripened the pools for the birds' use, so that they are more hospitable than when the path that leads to them was daily trodden. The lower pool is still too deep and sedgeless for small birds' use, but the rivulet that pours through an ancient culvert into the topmost pool has in the course of centuries nearly filled it with silt gathered from the contracted valley, and runs through it between deep beds of pond-sedge and flag and willow-herb, and occasional taller willows.

In this serene and flowery valley the convenience of five or six small migrants is the sum of the rise and fall of the monastic power. Two pairs of sedge-warblers survive in most years the double African journey, and fill the brown thickets of the upper pool in late April with the babble and riot of their nesting season. While the farm folk netted the tench or carp in the open pool, the sedge-warblers may already have poured furtive song among the bordering willows. But as nesters they must have been banished to the bushy hillside, which was the coneygarth or "cunniger" of the grange. The overgrown pool now provides nesting quarters for two pairs of

sedge-warblers, and no more ; and when in certain years a third pair joins them, the end of much skirmishing is that the newcomers retreat to nest in the cunniger, among low clumps of white meadow-rose. Spring's jealousy is so far dulled that the banished birds are allowed to collect part of the food for their young from the pool's garden, then bushy and verdant. Even at the height of his nesting the cock sedge-warbler does not forget to sing ; but we hear him best, and especially we see him best, before May's stronger suns have drawn up the brook plants. When the flag-spears are stiff and small, and the stems of pond-sedge scarcely out-top the withered haulm, then the cock sedge-warblers slip from the sedges into the willows and back again, advertising their warm cinnamon plumage and sun-fevered song.

Only the tangle of English summer vegetation at its richest can support this southern bird. It habitually comes too early, when the marshy thickets, soon to be golden with iris blossoms and honeyed with meadow-sweet, are barely emerging from the sun-kissed mire. White-throats and sedge-warblers arrive almost together, but while whitethroats have sometimes eggs even in April, sedge-warblers scarcely begin nesting until May. That drainage which is the foundation of agriculture has borne hard upon them ; all

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would gladly see each moist valley a morass again ; it was only when this pool dug by the monastic farmers fell into decay that it could attract them from the bushes on the hill.

How, one wonders, did this suggestion of something new and exotic in the warbler's song and plumage appeal to fifteenth-century eyes and ears—the eyes and ears of our own countrymen, perhaps our own forefathers, who are gone from the scenes they planned, where the sedge-warblers return to enchant the spring sunshine. If they thought about them, they probably believed that the warblers arose from the pool when spring warmed it, as most said that swallows did ; and their cinnamon hues and new gush of hot song were ascribed to the same spring warmth dispelling the long winter's dread which gave them bluebells and may blossom. To us knowledge brings a richer suggestion, and yet a hint of menace. Compared with the tints of grey skies and dead oak leaves borne by our own hedge-sparrows and thrushes, the body of the sedge-warbler seems still washed by the African sun ; and his notes, in their passionate dissonance, seem to prolong some strain of negro music heard among the date palms or mimosas. Among our tilled and ordered fields, he comes searching for the old unreclaimed swamp ; as the vulture watches for death, he awaits the decline of our civilisation.

MAY

NEW SONGS IN THE LEAVES—DO OUR BIRDS SING
TOO LOUD ?—ENGLISH MOCKING-BIRDS—THE
CURLEW'S MOORLAND MUSIC.

MAY sunshine fills the thickets with new singers and a new manner of song. Most of the song-birds that face our winter rejoice in acclaiming spring boldly ; thrushes and black-birds mount conspicuously among the elm boughs, the redbreast and yellowhammer perch on the roadside hedge-tops, and the lark cries from the open sky. With the coming of the warblers spring distils a more secret music. Henceforth we see but little of the singers that tell of ripening summer. Even the blackcap that flitted half openly through the beech-glades in their April bareness is soon lost as the leaves increase. Whitethroats seem deliberately to mock us, tossing for a moment high above the hedges, as though eager for notice, and then somersaulting with a scurrilous gabble into the depths of the young thorns. Garden warblers and lesser whitethroats are still more secretive ; they hardly arrive until their bowers have spread a summer privacy, and

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until late summer stills them, they sing invisibly behind the luminous screen.

Wandering in May, to compare the music of the birds, we are first struck by its profusion. The hedged fields of England, the gardens of its dense population, and the suppression of most birds of prey have all combined to multiply our song-birds. In bluebell-time the cuckoo seems never quiet ; and yet, when we listen, we find that several other singers are more persistent. Everywhere among trees and bushes the chaffinches are singing all day ; they are almost our commonest birds, and the most vocal. Often their song spreads a kind of web through the air, on which the notes of all other birds are embroidered ; and they will make shift to sing even when they are carrying a green caterpillar for their young. Move where the trees are higher, and now the undertone of all other songs is contributed by the blackbirds. In the green corn-fields, where the chaffinches and blackbirds cling to the hedges, a loftier roof of sound is woven by skylarks mounting in ceaseless relays, from dawn's first stir, when the dark sky still hides them. In woods and copses, up to the highest belts of thorns and birches, the strong May chime of individual willow-warblers blends into a dropping sweetness like warm spring rain. Other singers are equally dominant in their special haunts.

From the ash trees on Welsh hill pastures the tree-pipits flutter in song all day, and in Berkshire copses the music of the garden warbler flows like a golden brook through the heart of the vivid hazels.

Other song-birds are hardly less persistent, and more vivacious. The goldfinch's sibilant chatter has a restlessness which will ward off the stagnation of summer in July, and even in August, from the groves where it nests late. The continuity of the skylark's music comes from many singers; listen to the song of one, and we hear a high-pitched energy in keeping with its spiring flight. There is an almost impish aggressiveness in the whitethroat's song in the hedgerow, and in the sedge-warbler's as it mimics the partridge and chaffinch by the brook. The reed-warbler deep in the reed-screen sings in a silvery delirium. An intense vitality underlies the adoption of strikingly different songs by birds closely akin. Chiffchaffs and willow-warblers would hardly be distinguishable without their contrasted cries; the wood warbler is but a slightly larger and brighter willow-warbler, yet it has two songs, both perfectly distinct from its relatives—the shivering trill which it wrings forth with strong muscular tremors, and a bell-like repeated call. The lesser whitethroat differentiates itself from the common "nettle-creeper" by two voices also—a short

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spurt of warbler's music, with none of the common whitethroat's twang, and a loud repeated challenge, with little of the grace of song, but of surprising power for one of our smallest birds.

Is it true, then, as an American naturalist once complained, that English song-birds overdo their singing ? The protest reveals by implication that birds in America sing less ; and this is natural to a new country, in which song-birds have not been intensively cultivated as many have been, unconsciously, in England. Two birds sing more than twice as much as one, from the spur of rivalry ; when we double the census of thrushes and chaffinches about our gardens and orchards, we more than double their music. But it is surely no vice in song-birds to sing freely ; and England too has its lonely songs, bird-music of elfin sweetness. The blackbird's first speech at dawn, when the garden is still asleep, is hushed as if he too felt the moment's wonder ; his voice takes a tone almost of awe, and his strain is brief. Nightfall brings its own solemnity to the sedge-warbler's African babble ; that chatter of hot noon, those catchwords of day's river-traffic, are ghostlike when repeated under the stars. Nightingales themselves seem to become more conscious of their songs at night, when few birds sing, and they are throat to throat with far-off rivals. Now their passionate breasts almost overcome the need for

muscular relief, and their song flows with little intermission ; they are stung by their own echoes beating from the beech-trunks in the windless air.

Birds' songs are largely imitative, and when chaffinch sings against chaffinch, or thrush against thrush, they assimilate their songs to one code, and among all their individual differences we can recognise a kind of local dialect. Berkshire chaffinches sing differently from those of the fen country ; and from time to time the birds of some suburban neighbourhood acquire a special repute for the fullness or the purity of their utterance, and town chaffinch-fanciers carry their caged birds on Sundays to learn their better accent. In hill districts where the chiffchaffs are far scarcer than willow-wrens, they sometimes exchange the precise repetition of their own name for a sweet indecisive warble which is nearly the willow-wren's music. A man may live so long among foreigners that for want of practice he forgets how to speak his own language ; and chiffchaffs on the outskirts of their breeding-range seem no less dis-patriated. These altered songs are the last test of the observer's ear ; when all birds mingle their music on May morning, he has to cope with a feigned cry.

The most famous bird mimics are American mocking-birds ; but there is no more mockery in the repetitions of these western thrushes, or our

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own thrushes and warblers with like gifts, than when every street-boy takes to whistling the same tune in its season. The boy whistles that tune because he likes whistling what other boys whistle, and there is the same sense of pleasure and companionship in the voices of bird mimics. Of all our mocking birds, except the rare marsh-warbler, the sedge-warbler is the most resourceful and fluent. Did we know to what strange birds he had listened in Africa, and on his northward journey, we might recognise many alien phrases in his earliest music. Deprived of that clue, we assume that the song which we hear in April and May is mostly his own ; but his mimicry grows more marked as the season lengthens. While human listeners pay most attention to birds' songs, birds naturally are just as much interested in their call notes ; and the partridge's familiar creak, the sparrow's chirp, and the chaffinch's clear " ping ping " are all common in the sedge-warbler's midsummer musings. The same note of the partridge is conspicuous among the fitful and spiriting imitations which the wheatear flings out as he veers and tosses about the rabbit-warrens during his first few weeks in England.

There is a story of an ancient parrot which was the sole repository of a dead island speech ; and when the sedge-warbler recalls the noonday cries of midsummer under the stars, or the newly

landed wheatear repeats the catchwords which it learnt, perhaps, in Spain or Africa, we feel almost the same thrill of a lost secret. Starlings are the greatest mimics, outside the thrush and warbler tribe. On their arrival in Switzerland, where they are spring migrants, they have been reported at once to repeat the flute-like notes of the golden oriole, which does not appear until several weeks later. So too, on a foggy November morning in England, I have heard a starling clearly uttering the spring cry of the peewit from almost the other pole of the year. Starlings are less fluent than the sedge-warbler, but no other mimic seems to enjoy itself with such deliberate concentration. It is truly ventriloquial—as truly, that is, as any human performer—since its renderings come from deep in the larynx, with little motion of the beak. When cab-whistles were blown in London, starlings copied them in their soliloquies on the chimney-pots as complacently as they echo the missel-thrushes beside an Aberdeenshire farm. Near London starlings have lately added to their repertory the catlike call of the little owl. Though they repeat such large birds' phrases, they reduce them to the compass of their own throats. The owl seems to be almost whispering, or far away. In moorland valleys starlings imitate curlews. Half-an-hour after the last brown curlew passed we hear his song again, and idly watch for his

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love-shaken pinions. No curlew comes, and yet his voice chants on, as though far off in the sky or on the moor; then it slides suddenly, and a touch too smoothly, into the distant laugh of a green woodpecker. It is a starling on the rooftop, spiriting into the garden the cries of birds not present, the figments of a mocking memory.

Birds nest thickly among May verdure for its warmth and shelter; but the same densely intricate foliage defends them against birds of prey, which will soon have young to feed, and become doubly rapacious. Birds which swoop upon their victims, like the owl and the sparrow-hawk, fear to plunge into the sharp entanglements of a thorn-brake, or a thicket of young spruces, lest they be caught fast, or break their beating flight-feathers. The bullfinch, bobbing helplessly before the sparrow-hawk suddenly dashing into the garden, is safe if he can once gain the hedge. With a swerve as sudden as his first onset, the hawk flickers over it and is gone.

Song-thrushes choose furze-bushes for many of their earliest nests for shelter against the north wind and hailstorms; but when the young birds fill the wood-smeared cup, and the brown owl is hunting under the May stars, the bloom-clad spines avert it, and save the brood. The needles of a dense spruce thicket are as efficient a defence as the spines of the furze or the holly; the hunting

owl glides impotently above the serried files of the young trees, and seeks a more careless builder. Brown owls are skilful birds'-nesters. One spring a song-thrush nested in a straggling box-bush, and prospered until her young were half-fledged. Every night a brown owl hunted in the garden, and the nest was so bare to the view that it seemed that the owl deliberately waited until the young thrushes were well grown. Blackbirds shrieking in the dusk signalled its attack. Balloon-like, it came hovering through the plantation towards the fatal box-bush, in odd, short flights from bough to ground and back again, as the blackbirds darted vociferously about its head. At last it pounced straight into the bush, from which the sitting thrush sprang screaming. Of four young birds only one was left, and by morning the nest was empty.

Box is spineless, but becomes owl-proof by clipping ; and the close natural growth of an old ivy-bush makes it as good a refuge. The hunted wagtail will dive into the ivy-crown on which the sparrow-hawk fears to dash at high speed. In certain districts where there are as yet no fir plantations, every other thorn-tree topped by an ivy-bush shelters a woodpigeon's nest in early May. Later, the pigeons build freely among the new-leaved thorns, but in early spring they are restricted to trees with an evergreen coping.

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Under these dark umbrellas the hunter and the hunted change parts. Probably a half-grown pigeon squab would taste as sweet to the brown owl as a young thrush, and it is a good deal fatter. But the owl in the ivy bush is not hunting ; it is drowsing out the day, and hiding from the blackbirds' clamour. In this pacific phase it seeks a bush deserted for the season, and sits on a wood-pigeon's old nest. Every dark-topped thorn tree on the wooded hillside may hold either a pigeon or an owl ; we tap it, and the grey bird shoots clapping, or the brown one skims away on muted wings.

There is no confederacy among bird thieves, and both carrion crows and jays will join in the blackbirds' hue-and-cry after the wood-owl, though both habitually rob nests and kill young birds. Jays hunt not by flight, like owls or hawks, but by prying with that pale, bright eye ; they too, are inveterate bird's-nesters, and nest both in fir thickets and among the green boughs of May. Both the growth and the clearance of large fir woods have a great effect on bird life. The change of the goldcrest from a scarce to a plentiful species has been brought about since the eighteenth century by the multiplication of imported firs and pines. Formerly, it must have sheltered chiefly in furze-brakes, where we can still find it nesting ; now its minute but eager song can be

heard in almost every clump of spruces from January until midsummer. Young spruce-belts near gardens are the chosen haunt of greenfinches. See the bold cock, as he chases the hen along a bough, with gold-washed wings widespread among the flashing rain-drops ! Doves and thrushes and warblers and titmice all multiply as firwoods clothe new soil, and have extended their range over regions which in living memory were almost treeless.

Warm rain in May is summer's life-blood ; all green things, and most of all the rising hay crop, need showers even more than sunshine when they are making growth. Heat and drought in May, and especially in the first three weeks of May, cripple the springing verdure in a way which no later rainfall can make good. Though the pastures may recover their full colour, there is not the same stuff in the sap, or the same savour in the herbage fed by it. Most forms of life nursed by English weather welcome this teeming moisture. When the sun comes out between the drenching storms the birds acclaim it not simply in reaction from gloom, but with the vigour of refreshment ; and when the clouds roll away from the stars, the whirl of moths in the mild night air tells that life is still urgent.

Many birds delight in spring rain as eagerly as the farmyard ducks, which can never have enough

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of it. Warm showers send the blackbirds high into the orchard boughs to warble their contentment. Starlings search the soft turf of the lawn in advancing lines, like the ducks in the wet green fields, and with a waddling gait as if they too were web-footed. If we watch how starlings feed we soon see how rain helps them. Not every dig of his beak in the turf wins the starling a mouthful ; he stabs the earth to find the grubs that lurk in it, and usually with parted mandibles, to make two probes of one. Through the coat of the soil, when well soaked, his pale beak cuts as through soft cheese. When he finds his prey he digs more fiercely, with a clenching grip, then struts on without losing place in the line. Even farmyard hens, though lovers of dust and dryness, roam for food under the warm drip of spring skies. Beetles and other insects that dislike moisture are on the move in the rain to find shelter, while slugs and all creatures to which rain is life are active because to be wet delights them.

Birds less vocal than blackbirds in May, or less hungry than gaunt mothers of chickens, show their appreciation of the rain when it has stopped. Goldfinches sparkle and twitter among the rain-drops flashing on the apple-boughs, and the soft notes of the willow-wrens pour more abundantly from the scented birch-boughs. Almost all birds sing best when the trees are still dripping

after a warm shower. They hymn the weather that sustains them. With the breaking of the buds there is an increase of their own food and that of the nestlings which will soon abound under the full-fledged branches. Dry springs impede their instinct and pervert their habits. Rooks, like starlings, gain a great part of their living by searching the soil for grubs ; but when the fields are baked hard by spring drought, some hunt for partridges' eggs in the hedges like carrion crows, while others become mendicants and scavengers, searching rubbish-heaps and sandwich-papers thrown from railway trains, as they do in hard frosts.

So many winged insects spend their early life in creeping beneath the water that the brimming of pools and rivulets is a great help in insect-eating birds. When water abounds, they have a wider choice of nesting-places, and more plentiful food. Every ditch breeds their prey in profusion, and no longer, as in drougthy seasons, they crowd into moist meadows and watery copses, or travel far to fill the beaks of their young. Dry sandy thickets have seldom many nesting warblers, but a copse with even a trickling ditch is full of them. Warblers build light nests of leaves and grasses, the least suited to wet weather ; but birds which plaster their nests find another satisfaction in a showery spring. Drought when the song-

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thrushes build tries them sorely, for every one knows their habit—unique among English birds—of finishing their nests with a cement-like lining. Sometimes they use plain mud, more often chips of touchwood, which need to be wet or to have a muddy matrix. In drought they can hardly piece out their wooden walls; one thrush, of impatient originality, lined her nest in a dry spring with long ropes of moss, defying precedent. House-martins in wet weather collect mud pellets from the nearest road, so long as it is tar-free. For the ring with which it narrows the mouth of its nest-hole the nuthatch uses a yellowish clay, more tenacious than the brittle crusts of swallows' and martins' nests. In dry years it is often difficult to discover from the side of what pond or stream they dig it; in a wet May a hundred dry earth-plots are unsealed for them. In a lull of the rain we can watch the hen nuthatch filling her beak where a patch of yellow stains the road's edge, while the cock repeats from a neighbouring tree his firmest and precisest spring calls, like the cry of the little spotted woodpecker.

On the high moors April showers are apt to be snow-showers, and most of the moorland birds delay nesting until May. Spring peoples the Welsh grass-moors with birds which know little of man. Heather-moors own the sway of the grouse, and are policed in their interest; but where the

dark heath thins out into pallid bent, most game-keepers leave the wilderness undisciplined. No house studs the rolling moor-tops, and the nesting birds live remote, until they lead down their young from the hills. Once the last trees are passed, few of the birds which greet ear or eye are the same as those which pass spring in the valleys. Wild duck nest as freely in sedgy pools on the moor as by the stream-sides much lower ; and peewits toss above the mosses as in the river-meadows. But the other hill-birds are peculiar to their high and wind-swept haunts, and pass from hill to hill even on migration.

Where the eye travels for leagues over the pale ranges, there is a fascination in this specialised life. Golden plover, still bound north in early May, skim in flocks round some crest of the hill, unwilling to travel farther before night falls, yet impatient for their native moors and mosses. But these western moors have their own golden plover, already settled before the northern birds have done passing. With breasts patched with black for the breeding season, they mew with a thin voice like a kitten's on some grassy hummock where they pretend their nest is hidden. This timorous cunning of the golden plover seems eloquent of a life spent in the wild ; but solitude breeds tame-ness too, and the migrant dunlins hiding in the peat-swamp scarcely creep beyond the range of

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a splashing foot. The spell of the summer wilderness is upon them ; a man wading is like a cloud's shadow, a phantom of no alarm.

Curlews are the lords of these wastes, and fill their loneliness with song. They are as much song-birds as any birds that trill or carol in the valleys ; their music is more varied than the skylark's, and more enraptured than the thrush's. Like other birds' song, it wanes and rises with the seasons. Three months hence, and the curlew will be mute, with the other singers, or scream as harshly as the startled blackbird, and from a more powerful throat. In May it fills the domed air with its warbling, and the distances with a dying call. Its music has a soft and curious prelude—a measured and musical note, many times repeated, before the bird, high in air, at length breaks forth into those wild and jubilant modulations that hurry into bubbling ecstasy, and decline. The vitality of the curlew's music is redoubled by its activity on the wing. It is a leader in the small and distinguished band of birds which sing habitually on the wing ; and its predominance is the more signal for its contrast with the slight, shrill titlark, which spurts its ditty on a falling flight, and is the only other song-bird of these grass-wastes, except the cuckoo that it has fed. Black-birds rest in groves and gardens while they warble, and nightingales in the heart of the thicket, but

curlews travel aloft under the sky. They propel their sharp brown pinions with deep breast-muscles, and sink in a luxurious faintness of spring rapture to their nested hill.

Curlews' nests are as wide as a tureen, and their four eggs are larger than hen's eggs ; but it is not easy to find them. The sitting bird betrays herself most often in a windy spring. Then she will choose some fold in the moor with a screen against the wind that has chiefly vexed her—the cold north, or even the boisterous south-west. Blind to one side, she may be surprised by a sudden appearance over the brow behind her, and will then rise straight from the nest. On more level plots she will face a strong wind as she sits, and may be discovered if we keep the wind in our own faces. But let her once see us afar, and she is gone ; she will run for a hundred yards or more before she flies, and may travel across our front, to rise conspicuously in the opposite direction. If her dun plumage does not conceal her as she runs, now and then we may hit on the nest by following her path backwards.

A peregrine falcon will sometimes kill a curlew ; but its worst enemy is the persistent and slinking crow. Carrion crows nest not on the open moor-top, but in the trees beneath it. They have many haunts in the sycamores and fir trees and mountain ashes which mark abandoned farms, far up the

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stream-beds and moorsides. Drifting above the moor, they keep their eye on many pairs of curlews, and rob the eggs in their first unguarded days before the mother bird sits closely. The great green broken shells are often found, sucked and dropped, in early May. Once the curlews are sitting, or have young, their risks are lessened ; though their long beaks are so unwarlike, their large size and buffeting clamour will daunt a raiding crow, or even a prowling sheep-dog. Curlews' decurved bills give them a wider range of probing without moving than the straight mandibles of the redshank or the snipe ; and this may be a modification for the sustenance of so large a wading-bird, though the beak of the much smaller curlew sandpiper is bent too. The sitting curlew carries her trunklike forceps comfortably, with her head tucked back upon her shoulders, as she gazes unwinkingly through the bright May wind at the distant snow-laced mountain. The cock bird stretches his bill in flight above, and parts it to utter his music.

Old gardens hidden among these moorlands have a magic charm. All day long the minute but eager warble of the goldcrests mingles with the whisper of the stream beyond the plantation in a gossamer foundation of sound. Silence itself is sharp-edged, beside this music which we drink as unconsciously as we breathe air ; yet, as the haze



Oliver G. Pike

CURLEW SETTLING ON HER EGGS

The Curlew's nest is more substantial than that of many waders

on far hills enchants the eye, it enchants the ear that listens. All songs and cries ring softer and stranger for this undertide of sound. The call-notes of the goldfinches flashing across the garden thrill more spiritually gay; the songs of the willow-wrens drop more mellow, like raindrops in growing weather. The chirr and trill of the green wood-wren in the greener sycamores become softer, and timed to a more lulling rhythm. While the blackbird and missel-thrush fill the boughs with their fresh music of earlier spring, the golden voice of the garden warbler in the sunshine beside the dark plantation rouses a new note from its recesses. It is the brown owl, which on May days, when all the birds are singing, becomes a song-bird too, and tempers his loud and mellow night-call into accord with the day-birds' voices. That is a reinforcement of the garden's magic, when out of the heart of the dark spruce-firs there throbs his soft unnatural call among the cries of day.

The hills stretch so wide round the old garden, and stand so close above it, that few of the hill-birds' voices fail to fall into its cupped ear. Every one of them, except the grouse and black-cock and the golden plover, and the merlin where merlins still linger, sends its message here, where the goldcrests embroider us with covert sound. All day the song of the curlew tosses from the hills,

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or falls from the long-beaked and strong-winged singer as he passes above us from brow to brow of his high kingdom. That mingling of the curlew's and garden warbler's music is rare and strange ; May has no such strong celestial partner for English nightingales.

JUNE

WHITE NIGHTS OF SONG—THE HILL-STREAM'S
SECRETS—A MOORLAND GULLERY—CRESTED
GREBES AND EIDER-DUCKS.

EVEN in Southern England, parted by many degrees from the midnight sun, a fine June night is little more than a twilight and a dawn. The sleep of nature is as light as the shadows half veiling the fields ; and there is no hour, from sunset to sunrise, when some bird cannot be heard wakefully calling, in recollection or anticipation of high day. The earth is not over-awed by the lights of heaven, as it is in the deep winter nights. Summer has no constellation of the majesty of Orion, who strides nightly across the winter sky with lifted sword. The greater planets, burning through the evening and morning glows, become lamps of the luminous twilight rather than of night ; and the supremacy of daylight cuts short the reign of the moon. In the full pride of midsummer foliage and blossom the earth seems hushed by her own sweetness, and to muse with the darkness tempered by her own white lamps, as by a night-light behind drawn curtains. White

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moon-daisies reflect the last of the afterglow in the rising hayfields, and keep light alive all night ; our gardens are gleaming secretly with white stocks and lilies ; and in the lanes and on the face of the woods, clustered constellations of elder-blossoms signal the years' high festival. Brief is this summer season of the earth's triumph ; the elder-blossoms will scarcely have faded before silence and darkness begin to gather in the July nights. But before it turns to harvest-time and its heavier slumbers, the earth, crowned with wild-roses, seems too happy to lie down and sleep.

Song-thrushes and blackcaps sing late into the shining dusk ; but they are outlasted by the song of the nightingale. Nightingales are now in their last days and nights of song ; many have ceased singing already, after safely hatching their broods ; and those that still sing sustainedly are singing in an expectation to be unfulfilled. But their song may still be heard, in sudden bursts and spurts, up to about one o'clock in the morning ; then it commonly ceases, for a reason which will appear. Other nocturnal singers, such as the nightjar and corncrake, can also be heard long after the thrushes are silent ; and their crude notes emphasize the fleeting sweetness of the nightingale's. The nightjar is more a bird of night than the nightingale itself ; it is seldom heard by day, and then only in a stealthy undertone, like the

occasional subdued cries of the brown owl. Nightingales sing freely by day, and so does the corncrake ; his rough notes deserve to be called a song, for they express the same summer gladness. The grasshopper warbler is equally monotonous in its jubilation, and sings both by day and in the dusk ; and except for the hoot of the brown owl or the screech of the white one, these are all the birds' cries which are proper to June nights in English valleys. But other cries break in from the birds of day, restless under their gossamer film of sleep. Half an hour seldom passes but we hear from the hillside cornfield the unresentful wail of the plover, as he outwatches night ; and now a dove in the hazel-wood, and now a moorhen in the water-meadows, and makes a sudden answer to the nightingale, abruptly, as if it were talking in its sleep.

At last the nightingale is silenced in his odorous woodland by the thrill or shudder of Nature with which every new day is born. The incense of the old day outlasts its due hour on the clock ; apart from changes of the weather, it is usually nearly two in the morning before there comes that tide of air which washes out the sweet staleness of the June yesterday, and makes to-morrow suddenly to-day. Sometimes it comes in an hour's high wind, sometimes with a mere trembling of the atmosphere, as when the first ripple of the making

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tide vibrates a sea pool. But always there is the same magical change—the sudden freshening of the air, the vanishing of the heady odours that draw the night-moths, and the sense of a new birth of time. The songs of night have ended, the songs of morning begin. In gardens the black-bird often raises the first new strain—one bugle-call, with silence after it, as before. In open places, morning is first acclaimed by multitudes of skylarks, which leap towards heaven and scatter down their songs before there is light to reveal them. Sometimes the nightjar now resumes his solitary murmur ; but most birds are still hushed. Then a little before sunrise, there breaks out suddenly their tumultuous collective welcome to day—an outburst more passionate and concentrated than we shall hear again in our normal waking hours. All the song-birds now sing, and this chorus gives the measure of their numbers from year to year. Then, as the sun mounts, silence falls ; the birds turn actively to feeding, to courtship, and some still to building their nests ; we hear the rooks cawing as they drift to their feeding-grounds, and, still at peaceful intervals, the individual noises of the waking world.

Wild creatures drop half their fear of man in the empty morning hours ; and next to a walk at sunrise, the best insight into the summer life of beasts and birds is given by a secluded stream. Their

confidence, though less complete, lasts all day long where a stream is screened by rocky or tree-clad banks, or guarded by flags and sedges. Only where boat traffic is very dense does the wild life of the streamside thickets and foliage fail to regard the thoroughfare of the waters as a refuge from the fields outside. In waters to which few prows penetrate, we can steal in canoe or skiff upon the nesting birds, as it were, by the back door. The dabchick's wet green cushion, or the wind-swung cups of the chanting reed-warblers, are bared to the eye from the reverse side of the bordering reeds and willows as they seldom are from shore. To the sitting dabchick the shock of being thus out-flanked is plainly great. She drags a weed over her long white eggs, and dives with the utmost swiftness. But the reed-warblers, like most small birds, have less terror of man. While our boat drifts past their sighing groves they pour their silvery music undisturbed and preserve the peace of Eden.

By hill-streams, where no boat ever passes, birds have still greater confidence in the seclusion of the sliding flood. It attracts many nesting pairs of the landward kinds. Willow-wrens and garden warblers are drawn to the bramble patches beside the current, where a hedge wards off heifer and sheep. Long-tailed titmice clamp in the crotches of the streamside alders those lichen-

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nests which here are as well hidden as they are conspicuous when placed more commonly among thorns. Wrens and redbreasts almost become water-birds ; they nest in the abrupt and crannied banks, and hunt for insects among the spray-dashed ledges. Add to all such colonists from the woods and lanes and thickets the true water-birds, and the hill-stream in early June has as varied and attractive a company as can be found anywhere. Intimate glimpses can be won by patient clambering along the shore, and yet more patient idleness. But many of the stream's most exquisite scenes can only be reached by wading. Few but the otter-hunter and the fisherman ever enter them, and only the fisherman comes with the quietness that reveals him their wild life.

Gently moving where no birds or beasts expect him, he is unseen by them for half the summer day. He wears a cap of invisibility, as in the fairy tales ; and what he sees is almost as full of surprise. He watches the trembling rapture, as of a little bird expecting food from the beak, with which the willow-wrens court among the mossy alder roots ; and when the cock leaves his mate, suddenly she sings. She has no art for the willow-wren's full chime, with which the thickets are still softly ringing ; but her half-dozen notes are varied and tuneful enough to be added to the list of songs uttered by hen birds,

which is still so scanty. Only an exceptionally resolute utilitarian would perhaps claim that, when a cock bird feeds his hen, he is simply fattening her to resist the trials of the nesting season, and thus promoting the survival of the fittest. The act is seen so seldom, especially away from the nest, that it is hard to believe that it can weigh appreciably in the birds' scale of life and death, and that it is not simply an exquisite attention—a June flower of the love-season. Chirping and flashing and careening, a grey wagtail, golden of breast and tail, drops with his primrose-bosomed mate to a stake jutting from a sunny rock-pool, and at once he trips off among the wave-lapped mosses to seek flies for her. Time and again he fills his beak and offers her the refection, with lively mutual bows and eager wagging of the two bright tails. Suddenly they whirl aloft again, with that eager double cry—one of the most vital by all the summer river. These wagtails have no nest by this pool ; they seem to love to range the river up and down before one or the other—for both incubate—settles down for the night on the drab eggs, where the stream sings loudest.

Kingfishers are stiller than the human trout-fisher, until they hover or plunge. It is a chance which first spies the other. This is one of the disadvantages of trout-fishing, compared with

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fishing for roach or carp, that the rod is seldom still enough to tempt a kingfisher to come and sit upon it. Yet the trout-fisher, following a more varied and broken flow, sees a fuller display of the birds' art. If he loves the kingfisher, some of his discoveries may be a little disconcerting, and he may be glad that no enemy of the kingfisher is by his side. When a kingfisher, one day lately, stooped like a blue flame to the stony shallow, the four-inch fish with which he emerged was certainly no minnow. And whether it was trout or salmon parr, it went to refresh the kingfisher itself, and not some brood of young whose necessities might better excuse a little poaching. Yet on that well-stocked hill-stream each pair of kingfishers claimed nearly a mile of fishing ground at nesting time, and the damage done by them must be trifling. Even this four-inch fish took more than a minute to kill, by vicious whacks upon the bough where the bird was sitting. One fisherman at least does not grudge these sparse and beautiful birds all the fish that they can eat; and from that dark hole under the willow roots, smelling like Billingsgate, he hopes some quiet morning to put out, scatheless, the proprietary otter, and not merely, as once happened, by one of the most unexpected of the stream's surprises, a round-eyed and angry owl.

Far beyond the nightingale's bounds, June

brings luxuriance to those woods of the west that November made dreary. Now comes the recompense for months of mist and rain ; the hillside oak boughs are as green as the earth itself with moss, and as densely tufted with fern clumps. When the may-bloom fades, that of the mountain ash whitens ; the volume of blossom seems to condense from a diffused nebula into concrete moons. The young oak leaves are still vividly tender, the ash tufts keep the first freshness of spring ; all spring birds of the mountain valleys, even the missel-thrush, whose nest the crow has robbed, are still singing together. As the sun flings the shadows of the boughs into the clear stream, with the spotted trout hanging between them, the trunks are banded with the rippling reflection of the summer waters, pulsing with amber light.

Though they are scarcely forty miles from the edge of the English plain, these wooded valleys in the heart of the Welsh hills have a distinct bird chorus. The familiar voices of the lowlands are missing or rare, and many cries and songs heard from the hollow woodside ring transfigured and singular. It is satisfactory to verify an impression by an actual record, and to tell on the fingers, or jot down with a pencil, the successive challenges to the ear by the wooded margin of the stream. As we unravel the birds'

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medley, we are likely first to recognise the shivering silver song with which the heart of the sandpiper vibrates from love to fear. The rapture of his airy wooing is now past, but the thrill of his marriage music is prolonged into his cries of anxiety over his young hidden by the waterside. Next comes the trembling call of the wood-wren, and soon its clear contrasted notes, like a bell. Many English woods holds wood-wrens, but there are few in the Midlands or the east where these two calls are so predominant among other songs ; and this strange double voice from one bird helps to bewitch these woods, already a little unearthly from their hollow resonance. The dipper's sharp cry, as it rounds a bend of the stream, for a moment suggests a kingfisher ; then may come the kingfisher himself, with like flight, but incandescent with blue light instead of opaquely sooty, and with a thinner and subtler call. From the trees falls a fitful stream of cheerful but disjointed notes which at first suggest the song of a redstart, but are less stereotyped. Then, with a flourishing flight, out swoops from the streamside alders a small black-and-white bird, and our redstart becomes a pied flycatcher.

Pied flycatchers are so faithful in early summer to these streamside woods of the west that they seem their presiding spirits. They are far sprightlier than the spotted flycatchers of English

gardens, and as friendly. Every year a pair builds here in the same alder, and shows us a notable consideration. Alone of all the trees along this bank, this that they have chosen has a fern-clad boss for a step, and a strong side shoot which forms a convenient hand-rail. The tree leans to the stream just enough to reduce effort without suggesting danger ; it is two strides from the bank to the flycatcher's door. As we peer at the young birds in their trim little cup of bents binding dry leaves, the cock flycatcher is as likely as not to come and perch in the next tree and look at us. The hen is patterned much like the cock, but is duskier, and a little suggests a young chaffinch ; and she alone does not entirely consult her visitors' convenience, for if she is sitting on eggs or young, only such violence as humanity forbids, will remove her and reveal them. These woodland flycatchers have the air of less sober and finished workmen than the garden kind, which frequent the same valleys. They are less precise in their swoops, and do not return with the same exactness to one commanding perch. In spite of spending so much time by the streams, they lack skill in picking flies from their surface. They fear to wet their wings ; and a flycatcher which has once missed its fly may see it snapped under its very nose by a salmon parr.

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The wood leads us to more contrasts and surprises. If we mount for half a mile by a tributary brook, soon the music alters. The voice of the sandpiper is lost in the brawling of the rill ; it does not ascend these lesser torrents, bare of silt and shingle. The wood-wren's shivering cry is now heard beneath us, ghostlike in the dark heart of the wood. As the light breaks broader over the hill's rim, new songs and calls are instinct with a wider atmosphere, and without the woodland resonance. The curlew's warble drifts through the trees, and the peewit's call ; perhaps a buzzard mews ; we hear a titlark sing. Now the wood is left behind ; our torrent leads us up a crooked gully, in which sallow-bushes have crouched from the winter storms, and in early June the little green hair-streak butterflies are still bickering on the birch-tips.

As we emerge on a rushy plat of the moor, the world around us is changed. There are no trees here, and no voices of the trees—only a grassy wilderness, with the heat-blur of the June day flowing. We mount a knoll, and gain a far view of the rocky backbone of Wales, stretching in tempestuous outline ; and with that vision comes a new and harsher cry. A black-headed gull is scouting above us, and angrily gabbling ; as we cross the knoll, and come in sight of a wide sedgy pool, the birds gather and their din increases.

This boggy "llyn" has drawn nesting gulls from some other inland haunt—perhaps owing to increase of numbers, perhaps because they have been harried by fishermen. These are the small gulls so well known in London when winter strips off their headman's mask. Of late years they are almost as much land-birds as sea-birds; yet they keep the sea-bird's white breast, and their harsh voice of the sea. They and the wild scene that frames them might well be in a different continent from the woods with their pied flycatchers at play. There are nests on the sedgy islets in the "llyn," but they are empty; the speckled gull-chicks are hatched and paddling in the sedges.

We wade over a quaking bog-raft in the sun-warmed water to some outlying nests, and lift the first chicks hatched in living memory on this "llyn." The life of these hungry and hostile sea-birds seems more tangible when we grasp their treasures. Then we sit where the mirage blows, and imbibe a yet deeper possession of the scene—the far-off tossing mountain-line, the leagues of crumpled and sun-steeped wilderness, and the din of the sea-birds drowning other sound. Such moments are almost trancelike, and give glimpses of eternity; yet as we come through the wood again, the pied flycatchers seem to welcome us home.

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As song palpably ebbs, and June transforms more than half our bird life into a harsh-voiced crowd of hungry fledgelings, interest is concentrated on birds still busy at the nest. The red-backed shrike, or butcher-bird, has often eggs or nestlings at midsummer ; and this prolongation of spring's affection is heightened by the barbaric fascination of the bird's methods. Ravens and falcons are manifestly menacing, and their voices ring defiance ; their seats are on bloodstained rocks or in the uncertain gloom of woods. Butcher-birds, on the other hand, are mainly silent birds, and choose for their short stay in this country just those quiet and bushy places where June is most flowery. Seek out hedges where the hawthorn bloom lies thickest, or the waste field where the scent of the dog-rose blows sweetest, and there, among the beauty of early summer, we are most likely to hear the angry stifled note of the cock shrike as he watches us from the top of the hedge, or find a bumblebee on the thorns of his larder.

Not every pair of butcher-birds hang their meat on hooks, and their purpose, when they do so, is not certain. Stores of food are sometimes collected by greater birds of prey, not only in the nest itself, beside the young, but in hollows among branches. But no hawk or crow decks a bush with its unsavoury wares, so as to earn the

name of butcher-bird. As for the habit's purpose, the bumblebee or the young tomtit may be impaled when victims are plentiful and left until it is wanted to feed the butcher-birds' young ; or possibly the thorn may give a useful purchase in tearing the larger morsels, to serve two or three. Amid the low herbage and small-stemmed bushes of the butcher-birds' haunts it would often be difficult to find either a safe hiding-place or a convenient fleshing-block, except on some spiny bough. It does not disprove either motive that the food laid by is often forgotten, until bird or bee becomes shrunk and mouldy. Other birds such as rooks, forget their stores, and mice and squirrels too. In the butcher-bird's own house-keeping this exposure of its meat on a bush is unimportant ; but it has strongly stamped the bird in human eyes.

The name of shrike comes from the note of old and young. It is a word meaning a loud, harsh cry, though what we now call a shriek is sometimes louder. Both the great and the lesser grey shrike, and the brightly painted woodchat shrike, have all visited England, and the big grey one, for reasons known to itself, often lands in East Yorkshire or Norfolk when moving south in autumn. But it is never known to have nested here, and, except for a suspicion that the woodchat has brought up a brood or two by stealth in

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southern counties, only the red-backed shrike plays butcher at nesting-time in Britain. It has tried many counties, some far to northward, but seldom returns to any beyond the English Midlands, and even within these limits is local. It needs warm, rough ground, where bees come to sip various flowers, where beetles are undisturbed and abundant, where new-fledged birds flutter among the bushes, and field mice play in their runs among the sweet-scented herbs. Such spots, with their varied flora and fauna, become scarcer in the north, and disappear under high cultivation ; so that butcher-birds and their larders are found most often on warm commons between the Thames and the Channel, or in the eastern counties, and especially on the steep untilled fringes of chalk hills.

The name shrike seems to contradict what has been said of the butcher-bird's silence, but, though its voice does not carry far, it has an angry intensity which arrests the most indifferent ear. As we approach the bush where the nest is hidden the cock shrike warns the hen by cawing notes of ill-temper, scowling with his black-banded face, and swishing his tail like an angry cat. If the hen leaves the nest and joins him there is a surprise, for her plumage is neither marked like his own, nor yet a faded copy of it, like that of many hen birds. The hen butcher-bird is

conspicuously laced about the breast and flanks with waving ripple-marks. In this distinction of plumage butcher-birds recall the tribe of hawks, and they are not unlike them in their rough ways of nesting. Hawks are no great builders, and butcher-birds, though they rank higher, make an untidy nest much like a larger greenfinch's. The plumage of the fledged young is like that of their mother worn with weeks of care, and since there are often six young in a brood the cock shrike appears the sole support of an orphaned family, or the master of many wives. Unlike their parents, young butcher-birds are among the noisiest of small birds, after they have left the nest ; they will fill half an acre of ground with harsh appeals for more food.

Butcher-birds are as constant as redbreasts or flycatchers to the same nesting-place, and sometimes, as the tide of houses creeps round them, they seem to give up their bold, conspicuous ways at the nest and learn to skulk like the magpie or jay. In the shadow of the oak boughs beside the thornbrake we catch the flash of the white-edged tail that the cock displays in May to the hen. A pair of butcher-birds would seem to be ill neighbours to the little birds among which they nest, but they obey the curious rule by which birds of prey do not often disturb other birds close to them, but hunt farther afield. Yellowhammers

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and whitethroats nest in the herbage close to the butcher-birds' thorn tree, greenfinches and chaffinches in the bushes beside it, and none takes harm. During the anxious time of nesting it seems that not even a tyrant likes to incur his neighbours' resentment. The little birds that we see in the butcher-birds' larder are usually caught at some distance ; but with one brood fledged the butcher-birds soon wander too. In August they will drift south towards Africa, after scarcely more than three months' stay.

Butcher-birds tend to grow scarcer as rough, thorny ground is cleared or built over ; but, like many other water and marsh birds, great crested grebes are steadily increasing their numbers and range. They too are birds of marked distinction, and though they return from the sea to their pools as early as January, they have often small young, or even eggs, at midsummer, and we can watch their half-grown chicks, like grey plush goslings, in August. It is fascinating to study the poses and gestures of a substantial colony on some park pond or placid reservoir. Against the wind-whipped water of a gusty afternoon their fantastic yet graceful figures are pricked sharply and clearly. Their white breasts, whiter than the tufted duck's white flanks, flash at a greater distance ; but the peculiar distinction of these diving birds is their tall carriage when alert or courting, and the singular

decoration of their uplifted heads. Both sexes in spring and summer wear a pair of plumes which they can raise like horns, and a wide fringe depending from the cheeks, which can also be spread wide. With their sharp bills and dark eyes surrounded by these brown and ruddy trappings, the grebes are strange and stately figures, and a little stern ; there is a combined suggestion in their visage of a judge's wig and the poleaxe of an executioner.

Two birds will be seen shepherding a small striped chick ; others meet and face each other with uplifted necks and billing gestures of courtship ; others, again, lie happy on the water, head to wind, with necks tucked back like a duck, while still others preen their darkly gleaming body plumage with a diving bird's assiduity. Occasionally a low croaking or cawing comes with the water's lap ; but these grebes are silent birds compared with the swifts screaming above the pool, or even with the coots expressing their alarm for their fluffy young by a chirping sneeze.

Young coots in down are of the mixed and mottled pattern with which nature clothes most young birds ; but young grebes, when small enough to ride between the mother's wings, and plunge with her, are striped like a palish tabby cat. Young dabchicks or little grebes have similar markings, while the same pattern is found much

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farther afield in nature on the young of various mammals. It is believed to be a transitory reproduction of the dress of the species in very ancient times, before the evolution of the modern livery. But why did crested grebes evolve that stately summer dress? The familiar explanations fail us; it does not help to conceal the sitting hen, while, being hers as well as his, her mate has not evolved it, like the tail of the peacock, for a splendid wooing. It is another of the many suggestions that richness of marking is inherent in nature, and will display itself unless there are special reasons for its suppression.

When June blows bleak and chilly, the seashore becomes the hunting-ground of many birds which have little in common. Land birds gather in the lee of the cliffs to avoid the unseasonable sting of the wind, while sea birds resort to it by custom. Their conjunctions are constantly unfamiliar and surprising; sand-martins sweep along the grassy ledges from which the rock-pipit ascends in song, and the swallow alights on the rock which is the haunt of the seagull. Stonechats and ringed plovers feed in the same weedy bay, and the redshank makes literally a bowing acquaintance with the rook before it returns to a more open strand.

On the grey Northumberland coast, lit with its gleaming sandhills, the outstanding birds of this

midsummer assemblage are the eider ducks and terns. As the rising tide lifts the seaweed from the rocks both come shoreward for feeding. No two birds haunting the same beaches could be more unlike in appearance or method. Terns are well called sea-swallows for their slender gracefulness, and the flickering lightness of their forked tail and pointed wings. They will pick a fish of the size of a whitebait from the surface of shallow water with a swift stoop like a swallow's gathering a mayfly from a stream ; and when the prey swims a little deeper the splash of the tern as it plunges catches the eye like the swallow bathing on the wing, though it takes a far bolder header. Eider ducks have equal buoyancy, but in water, not air, and are blunt as some roomy barge ; their bills, made for uprooting shell-fish, look overgrown and congested. Their chief fascination in these English waters is the sense that they bring of the north ; here, in midsummer days with almost a midnight sun, is the first of all their breeding stations that range far towards the Pole. There is a companionableness in their very tameness, and a comfortable suggestion in the grey down from that mottled breast. But while the duck eider is as soberly clad as the hen mallard, the drake's dress is one of the most singular among English sea birds, with its irregular but clearly defined splashes of black and white,

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relieved on the nape of the neck by patches of pale sea-green.

Peaceably float the eiders in contrasted pairs among the rocks awash, groping to the roots of the swinging olive tresses, and occasionally tilting their bodies upright like their tame cousins on a farmyard pond. In deeper water, we can watch them diving ; but it is easier hunting where the tide has just submerged the weedy reefs. To-night not all seem hungry ; the sea is scattered with isolated eider pairs, lazily drifting in the calm under the land. While the sea shone with a watery paleness, the drake's white plumage hid them, and the brown ducks stood out sharp and clear ; now, as the sky spreads a wing of duskier cloud, it is the ducks' turn to vanish into the seascape, while the almond whiteness of the drakes' breasts and shoulders shines from far. Now and then one lifts himself on the water to stretch his wings, and then the blackness of his belly gleams like a scrap of wreckage. It is now after half-past nine by summer time, and the sun dips, red and large, between the castled crag of Bamburgh and Holy Island. Its course, so near the horizon, is still marked by a rosy shaft of light that veers east beyond the island rock before it dies. Night falls slowly on the eiders still floating.

JULY

THE EBB OF SONG—LATE NESTERS—THE NIGHTJAR'S
SLUMBER-SONG—FEMINIST PHALAROPES.

JULY brings ripe summer, but a longer night ; the year passes from the last days of spring to the first of autumn. Spring survives, in these opening days, in the song of many birds ; as long as every garden holds its singing blackbird, we still keep touch with April. The abruptest parting with the year's freshness comes with the fall of the mowing-grass in the meadows. A wet July restores greenness to the hayfields after mowing, and prolongs it among the corn ; but as the hay crop falls, and the corn grows pale or golden, there is a swift ebb of birds' activity, even in the wettest and greenest seasons.

At the beginning of the month every hedge and rough pasture was alive with the anxiety of old birds, and full of their hidden young. In a few days this annual phase ends ; birds with filled beaks no longer cluck and chat on bough and bent grass ; old and young disappear in the stillness of the moulting season. Yet not all birds cease singing, like the nightingale, when

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they have hatched their brood ; some respond late to any hint of vernal freshness, and yield reluctantly to the dispiritment of the moult.

Blackcap, chiffchaff and reed bunting sing on in July without nesting, and singing goldfinches, like singing yellowhammers, may be nesting still. Cool, damp Julys prolong the nesting of the yellowhammer until August ; and all summer weather suits nesting goldfinches. Woodpigeons may nowadays be found nesting from March until August, or later ; in this too, as in the long nest-time of the town sparrow, we trace the help of man. We have killed the great hen sparrow-hawks, and planted thousands of acres of plantations ; dow or cushat or queest, the woodpigeon of many names sings us the same song all through summer, but more hoarsely among the hills. As song ebbs from the southern oakwoods, we hear the wilder note of the young sparrow-hawks screaming to be fed—a voice as bound up with July as the lordly flicker of the first purple emperor. When most birds fall silent, sometimes the common wagtail begins to sing. When he is nesting, he seems incoherent through excitement, and we hear little of him but his hasty call-note. The dispersion of his grey brood leaves him calmer ; often he sings best in mild and failing October. Now, too, mock nightingales sing, nearly a month after the real nightingale is silent,



Oliver G. Pike

GANNET CLIMBING INTO ITS NEST

Gannets seldom touch land, except for nesting

and often in places where no nightingale is heard. It is as mistaken to suppose that every bird which sings at night is a nightingale as that a nightingale sings only at night ; and many mock nightingales are song-thrushes. A song-thrush will often sing after sunset when it has stopped singing by day. Those clear phases have the repetition, and much of the beauty, of the nightingale's music, though less than its passion. Mock nightingales among high timber are sometimes blackcaps, which sing at evening far into July ; but by the riverside they are usually sedge-warblers. The sedge-warbler sings the least like a nightingale of all three. But he is most like one in singing, not only while the sunset glow still lingers, but when night broods dark, and scented with meadow-sweet, and the nightjar's hum comes down with warm puffs of the pines' resin to the cooler stream.

If we listen daily for the last song of each singer, we shall find that the garden birds outstay, as a rule, those of the wild. In a dispeopled and uncultivated England few birds but the yellow-hammer would be singing after early July. What other birds we hear, late in the month, are encouraged to persevere by our unconscious tendance. The green and watered life of gardens helps to prolong in them a sense of spring. The contrast between London parks and wild moorland valleys is yet more striking ; Hyde Park is

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often vocal when the lonely combe is still. Undoubtedly one effect of the song-bird's dependence on man is thus to prolong his singing season. But here, too, the bird's wild nature rejects a general rule. It is true that garden chaffinches, particularly those of town gardens, often sing later than those of the woods and lanes ; but even in gardens their profuse song ends early, and few help to break the July stillness. They are silent when the skylarks and yellowhammers are persistently singing ; and both these birds avoid all but the garden's wild fringe.

Even in a garden July at last brings stillness ; soon we shall hear our thrushes singing only at dawn, or in fresh evenings, or when morning brings a sense of spring in the rain. Life subsides like a sea after storm, with waves that toss, but less and less often ; in the month's first few days a rain-wind may revive the willow-warblers, if they have fallen mute already, but hardly a fortnight later. These last thrills and snatches of song, though so slight, sound solemn in the trees' silence ; earth herself seems to pore upon them. Even in their decline the songs of birds keep their distinctions ; up to the last ripple of utterance the blackcap's high warble is unlike the garden warbler's mellow flow. But most cries of birds, as July deepens, can be classed neither as song nor call nor alarm notes ; they

are mere ejaculations of tedium and distemper. The greenfinch's drawl, which suggests a bird yawning, belongs to its first spring song, and seems to be retained because it fits summer's heaviness ; but many of the abrupt and long-repeated cries which ruffle the July stillness bear slight resemblance to any note of the same bird six weeks before.

To the ear of the bird-lover July soon grows more empty than February ; yet there is a peculiar fascination in noting the birds that resist the season's numbing influences, and refuse to be either inactive or mute. How empty seems the air of the early morning, uncheered by chaffinch or blackbird or song-thrush, or even the indefatigable flourish of the goldcrest in the yew boughs by the door ! Then there pulses from the eaves a cry familiar in late May, but in July almost an anachronism—that clamorous cheep of young starlings in unison, as the old bird glides in with food. On the same July day the clock of summer may be almost as abruptly set back by a pair of whitethroats jerking and clacking through a white rose bush, in anxiety over their young. It is the rule of both the starling and the whitethroat to rear one brood in May and then to give up nesting. Most starlings begin nesting towards the end of April, so that the young are on the wing, and have sometimes even formed small flocks, by

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the end of May. Most young whitethroats leave the nest early in June, before the nightingales cease singing. The old birds may creep among the brambles, and toss above them, as if they were nesting still ; but they have few nests with eggs or young after midsummer whitens the elder bloom.

Most birds that fail to rear a brood will nest again, and it is possible that these young starlings piping in the July ivy are the result of earlier ill-fortune. If so, it was unusually sustained. Only starlings which lost one brood in May and another in June would still need to be carrying food in July. Such a double disaster is not impossible ; but starlings' nests are exposed to few accidents, and there is a suspicion of a different explanation. Birds' fertility depends much on good feeding, and settled winter quarters, which make them lusty to face spring. While most starlings wander in winter, often crossing the seas, some cling to the safe shelter of the garden or stableyard, and flute to us amicably of their comfort on chimney-pots lit up by winter sunshine. It is possible that these home-keeping starlings may sometimes lay a second time out of the superfluity of their lustiness, and hunt grubs from sunrise to sunset in July as they hunted them in May. As for whitethroats, all are migrants from Africa, of the warbler kind, and it is the warblers' habit to raise one brood only. Yet the

more we watch birds, the less we believe in absolute laws ; and it seems likely that birds of great vigour, which win the best hunting-grounds at both ends of their journey, may be impelled to double their families in the same way.

Once the profuse song of the chaffinches is cut off, and thrushes and blackbirds sing fitfully, silence nurses the July garden like a warm cloak. Now the most active bird is the common fly-catcher, which is silent by habit. The snap of its beak at a fly is more familiar than its rare chirp, or slight and still rarer song. It begins its nesting late, and rears two broods, so that July sees it still busily hawking for insects from some watch-tower like the post of the tennis-net or the peak of the summerhouse. Since it needs open spaces for its hunting it often chooses a lawn or bordering hayfield for teaching its young to catch flies. Fly-catchers are attractive birds, with their large intelligent eyes and confiding habits, and their young have a very human laziness. So long as their parents will feed them they do not care much to feed themselves. An old bird flits from the rails where they sit and snaps up a fly in front of their faces for an example ; but they watch unmoved until the parent, yielding to habit, gives one the fly. Gradually they range for themselves, as they find they are fed less regularly than in the nest ; so mevanish, as so many young birds do vanish ;

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and presently the survivors of the brood are as active as their parents.

July opens with the long June twilight not perceptibly shortened ; but the dusk soon deepens. It is the season of the deepest afterglows, but they end in velvet night. In the dusk, as at midday, the colours of July in hot weather deepen the contrasts of darkness and light. The dry lawn lies pallid in the twilight under the blackened sycamores, just as the yellowing cornfield has grown pale beneath its sun-bronzed hedges. Dark boughs and sallow floors accentuate all brighter lights. Sheets of stonecrop blaze on dry warrens with a fiery brilliance ; glow-worms light their lamps, green, yellow, or red, as the weather turns cooler or hotter ; and down the dark paths in the garden shrubberies the swallow-tail moths come dancing with a primrose radiance. Robins mope in these dark shades during their change of dress ; for most of July they are silent. The first songs of the young birds are heard from the shrubberies at daybreak in the last mornings of July, or more often at the beginning of August. By day we shall hardly hear the robin's song for five or six weeks more ; but that signal in the delayed and dewy dawn tells of midsummer forgotten, and a new outlook over autumn into spring.

As nights grow warm and still, a new voice fills them, for though the nightjar begins to chant from

its first coming in May, it is less heard while the breezes blow fresher and many song-birds sing late. Nightingales are not night-birds, but birds of daylight too impassioned to be long silent during their brief song-time, and even the sedge-warbler still repeating his old tunes by the dusky river is a singer by day in the spring. The sedge-warbler babbles in July nights because with the changing season darkness yields a springlike freshness. But nightjars are as truly nocturnal as bats, and some of the mystery that once invested all night-fowl still clings about their secret note and flight.

Their voice outstays that of the nightingale because they belong to a tribe of almost universal distribution in the warmer zones. July nights bring them no heaviness, but a congenial balm ; the insects on which they prey are still active, and they have often young still unfledged. Unlike most day-birds, they end their singing and nesting not when the days grow hot, but when the nights grow chilly. Very early in August the nights are plainly lengthening, the hours of dawn grow dewy and grey. Moths become scarcer and hide before that hoary morning breath ; then the nightjar murmurs a farewell to England, and is gone again after less than a four months' stay.

The reeling undertone of that plain-song travels far in still summer nights, and sheds a peaceful spell. Nightjars love dry heaths and

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glades free from our northern damps ; but when the breeze falls at sunset, and the dusk veils their owl-like flight, a pair sometimes flit together to feed in the mown hayfields, and there for a time the male will satisfy himself with song. All happy sounds made by a bird to its mate deserve the name of song ; but to human ears the nightjar's canticle is a reel or purr, changing its pitch very like the distant hum of a threshing-machine in an autumn rickyard. Probably the sound changes with the outward or inward passage of breath ; but even with this concession to respiration it is sometimes kept up to a remarkable length. On a Hampshire hill within a walk of Selborne I have timed an unbroken run of over seven minutes ; and the force of its production is testified by Gilbert White's story of how the summerhouse on the famous beech-cliff above the village trembled while a perched nightjar sang. Yet it sounds as effortless as if we overheard, in the night's stillness, some deep and primal movement of the universe drowned by sounds of day—the earth's murmur as it spins eastwards towards sunrise, or the roar of stars flaming afar in the height.

Nightjars have other notes than this best-known drowsy song, though they are heard oftenest in the first ardour of the nesting-season. The birds' name of fern-owl comes from the softly mottled plumage and silent flight ; but they often utter a

sharp "ko-wick" or "quick," which recalls the cry of the brown wood-owl, as she sits in a tree, while her mate ranges, tunefully hooting. Owls are a far-flung tribe, but not related to the nightjars ; and our own owls are most silent in those hot nights when the southern insect-eater is most active. Another favourite note of the nightjar is a sharp crack of its wings above its back in the air, as it mounts like a woodpigeon in daylight. It courts its mate with its wings as instruments of percussion, as well as by voice, and by the spread of its spotted quills in the twilight. Sometimes it whistles in long mellow undulation ; and, like the bell-note of the wood-warbler in the same oak-woods, this sound is in no way suggested by its normal utterance. Like its wing-claps, this most musical note of the nightjar is only heard as it flies ; and its jar or churr only delivered at rest. It utters it from a bough under cover of the dusk, and mistrustfully from the ground in broad sunlight ; but this midday murmur is a mere whisper, and the night-bird cries little more loudly when it joins, now and then, in the chorus of day-birds to the June sunrise.

Nightjars lie hid by day among the heath and bracken, often basking in the sunshine like lizards. Their choice of night for hunting is a habit transferred from hotter climates, where insects most abound after nightfall ; but for this deep racial

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bias they might thrive better if they coursed in daylight like the swallow. Rising before us from the bracken, the cock bird shows his beautifully mottled brown plumage, his white spots on wings and tail, and perhaps his strange vast mouth and flattened head. In parts of France he is known as the flying toad, and the gargoyle-faced nightjars of the tropics are, less emphatically, called frog-mouths. That width of gape helps to engulf moths and beetles in flight, and fringing bristles form a palisade to retain them. Yet thousands of nightjars must have perished for this innocent device ; the belief that they were fashioned to steal goats' milk prevailed in many lands, and gave them their name of goatsuckers. Birds with ugly faces which flit at night are sure to have to pay for it, and in parts of England where goats are too scarce to matter much, nightjars are named after the sprite Puck, and notoriously inflict on calves the sickness called puckeridge. Gamekeepers sometimes shoot them, like woodpeckers, chiefly for something to shoot ; but on the whole the star of the nightjar is rising. The American nightjars, which cry " Whip-poor-Will," lay their eggs on flat roofs even in towns ; and though our English birds are less confiding, they nest close to new gardens on heathy hill-tops. Under the July moon the long, blunt-headed bird alights silently on the silhouetted fir-branch, sitting lengthwise, as a rule,

to find more stay ; then the murmur descends from him that crowned the silence of night on the heath for ages before the fir trees were planted.

When the July night brings coolness it is one of the richest summer pleasures to rest on the dry turf among the bracken, and listen to the night-jar's reeling hum. But by day, when the oak-crowns grow dark and tarnished, and the birds drowsy and few, summer's touch becomes heavy ; we begin to crave the refreshment of the river. Thames pools and backwaters retain in later summer a luxuriant freshness of vegetation and a springlike activity of bird life. As the sun warms the water, giant docks lift broad green banners beside the lily pools and among the turquoise forget-me-not clumps. Dabchicks bubble among the beds of bur-reed, and we still spy here and there, from a canoe, their pudding-like nest of floating weed with a white egg protruding. Sedge-warblers and reed-warblers burst into delirious music—song with a touch of sunstroke—as we brush their thickets with our prow ; in and out of the scented rushes and across the lily leaves paddle moorhen families of all ages.

Moorhens nest from March until August, and the eldest broods have now reached the awkward age. Their markings have neither the quaintness of their newly-hatched brothers' nor the sober comeliness of their parents'. With dull grey

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backs and breasts of dirty white, they are almost as dingy as the young starlings which congregate on the newly shorn hayfields. Their white tail patches—the tribal badge of the moorhen—are cloudy and small, and the phylactery upon their foreheads, which soon will shine crimson and yellow, is of a frog-like green. At first acquaintance the chief interest of this hobbledehoy company is that they are moorhens too, for in their dingy disparity the relationship might easily be overlooked, just as young starlings were once believed to be birds of separate kind, and called brown starlings or solitary thrushes.

It must be odd to belong to a family in which new brothers and sisters arrive in sets of six or eight, and the spirits of the May generation of moorhens seem a little overcome by their parents having outstripped the compensation of the King's Bounty. The sextuplets themselves are unconcerned ; they scuttle over the water after the small sapphire dragonflies with improvident glee. They are so light that they can run on the water with a little help from their wings. Still more curious is their use of their wings, not for flying—this is as yet beyond them—but like a quadruped, for climbing. Disturb a very young moorhen from its nest, and after tumbling briskly to the water it will probably return when it thinks itself secure. Watch it while it scrambles among the dry flags

and growing sedge-stems ; it is nearly as four-handed as a monkey. The foremost joint of each wing is forked, like a finger and thumb ; and this use of the thumblike spur, with which the young moorhen gets a double purchase as it climbs, is a relic of kinship with the primal reptile stock, which will be lost as the coal-black chick develops.

Coal-black it appears at a little distance—a mere puff of inky down—but close at hand it reveals a brightly parti-coloured make-up. Its beak from root to tip is striped successively with crimson, orange, and yellow—a contrast even more vivid than its parents', and strangely unlike its own imminent eclipse. The crown of its head is crimson, and the skin above the eyes bright blue ; and these painted patches are but thinly veiled with black hair, as if more conspicuously to display them. But what is the object of this display ? Long before the chick becomes a wooer he will have lost these paint-box colours, and after mew-ing his dingy immaturity he will pose before his mate in the wholly distinct adornment of white frills. If the doctrine holds good that infants revive the racial past, there was an age when the quaker moorhen went coloured like a turkey-cock.

A moorhen's nest is easily twisted from summer's flags and sedges, and in July the new green nests outnumber the old pale ones. Some are used for the latest sets of eggs ; but most are

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spare sitting-rooms, built in convenient places for the growing clan. Water-rats build such lodges, but of green blades bitten into lengths ; the flags in moorhens' summerhouses are simply twisted. The hobbledehoys build some of these July nests, perhaps dimly anticipating their own nesting ; and these boobyish birds lose their air of absurdity and dullness, when we see them shepherding the newest babies among the water plants, and leading them to the best places for meals.

Still more exhilarating, as summer in England grows sleepy, is the escape to the northern islands, with their prolonged and contrasted nesting season. From a hilltop in the Outer Hebrides the isle shows so fretted by waters that it seems a torn garment on the sea. Innumerable lochs, both salt and fresh, are confused past the possibility of unravelling ; but there is a contrast in the colour of their shores. Eastwards, the tattered frame of land is dark and unpeopled ; under the ceaseless winds the whipping waves reflect black slopes of heather and peat. To the west, where the lochs are fewer, and their shores edged with the crofters' thatched hamlets, the outspread marsh and dune are greener than an English May.

In the dark half of the island the rarer presiding birds are the grey goose and the red-throated diver ; to the west, these boggy meadows between the plots of unripened barley are the haunt of the

red-necked phalarope. This is a strange name for a strange bird. It has lobed toes, recalling the coots, so an eighteenth century ornithologist called it "coot-foot," from a Greek word already applied to the coot, and meaning "bald." It is strange that in winter this little marsh bird should become a sea-bird ; yet not even the storm-petrel is more purely maritime, after it flits south to its winter quarters out on the open sea. The nearest winter quarters of the red-necked phalarope yet discovered, are off south-east Arabia. Finally, it is unique among our breeding birds in the allotment of duties and splendours. The hen bird is marked more brightly, she courts the cock, and he takes the chief share in the care of eggs and young.

Smallest of our breeding waders, the phalarope's dainty and confiding shape is as characteristic of these ultimate fringes of cultivation as on the black lochs a few miles inland the strong forms and harsh voices of goose and loon. In July the phalaropes' nesting is almost over, and they are thinly sprinkled about the snipe-bogs and in the soft meadows, singly or in twos and threes. Their very tameness conceals them, for they will lie low until almost disturbed by the foot. Snipe-shooters meet them on the edges of the heaving mats of bog-plants ; at the sound of the shot they trip forth and glance half curiously, as if asking the

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reason of the noise. Then they skim a few yards further into the marsh, and resume their feeding.

To make the phalaropes' acquaintance at leisure, we ramble expectantly by the side of a small boggy loch where large trout rise among the weed-beds. The air comes scented with clover, and a bunch of primroses is still alight in a niche of a rock. Along the shore come skimming three small waders with a pied wing-pattern, and vanish round a grassy knoll. An hour's wet tramp through bog and meadow discovers only snipe, and once a flashing troop of dunlin ; then with a petulant repeated cry rises a wader less swift and more marbled, and settles again twenty yards on. This is a phalarope, but a wild one ; it must be tamed for more comfortable observation. Again it is flushed, and again settles at a score of yards' distance ; but this time, in the phalarope's characteristic manner, it alights on a small muddy pool, and begins to swim and pick food. Now it has hardly the desire to escape ; by walking a few yards to left or right we confine it easily to this shallow puddle, where it feeds both from the water and the wet edge.

Several wading birds can swim a little on an emergency, but the phalarope paddles as lightly as a duckling, and with much more grace. The red throat of the breeding season is already lost, or more probably this is a young bird, with its full

adornments still to come ; throat and breast are pale grey, and the back striped with buff and two shades of brown, like a snipe's, but more brightly. Riding lightly on the surface, it swims with head and neck well raised—a water-bird not much larger than a skylark. For all its daring in facing the stormy voyage to these islands, its frailty is betrayed as, landing, it struggles with difficulty over a wind-laid stem of sedge, as an ant does in the herbage. Now it will hardly consent to fly, that we may see its wing-pattern more clearly. At last from a fierce advance to within four yards, the gentle bird of the last fringe of land flits complaining into a clump of sedges.

AUGUST

BIRDS IN DISGUISE—THE SOUTHWARD FLIGHT—
MIGRANTS ON THE SEASHORE—FISHING GANNETS.

IN August, bird life enters its most silent and secret phase. The songs which began to dwindle before midsummer collapse a few weeks later with a precipitate suddenness, and the noisy anxiousness of old birds for their young is simultaneously stilled. It is true that not all nesting ends by August ; a few linnets and goldfinches and yellowhammers still have eggs or unfledged broods, wood pigeons in their years of prosperity have learnt to rear young in the autumn, and at the end of their long, desultory house-keeping departing martins sometimes leave young in their nests beneath our eaves. Goldfinches sing in August with a fitful persistence, the yellowhammer still chants upon the commons, and in wet, cool seasons, or in high places, the voice of a thrush or a blackbird may still be heard, prolonging the end. But nests and songs are so few that they only accentuate the prevailing apathy ; and most of the songs are drowsy echoes of May tunes. The occasional rhythmic whisper of a chiffchaff in

August woods seems stupefied with summer's heaviness. In August most birds reach a stillness as deep as in midwinter, with a greater bodily languor ; and it is characteristic of this season that the first songs of the young redbreasts are secretly delivered in the freshness of the early morning over the autumnal dew.

The heaviness of most old birds in late summer is due to the moult supervening on the end of courtship ; and their dishevelled and indeterminate plumage adds to their secretiveness as they lurk in the dark garden shrubberies, or the glossy groves of bracken on heaths and moors. As for the young birds, many are changing dress, too ; and the next young song-bird to try his voice after the eager robin will be a song-thrush, with a broken voice like a growing boy's, on some drizzly day of September. Meanwhile, old and young go in disguise, or wear their dress with a perplexing difference ; they flit and shift in a spiritless masquerade. The completest of all disguises is the eclipse plumage of the common wild drake, and other males of the duck tribe, which in late summer assume a female dress. From midsummer to early October we shall look in vain for the spruce grey flanks, the dark, iridescent head and neat, curled tail of the wild or half-wild mallard. All the birds on the pool wear the same brown homely dress ; and yet, if we spy closer,

some of these ducks have a drake's green beak, for the beak does not alter with the feathers. While it is changing its wing-quills there is a time when the drake cannot fly, and to pass as one of the humbler sex is commonly regarded as a device evolved by Nature for its protection. To subtler feminists the object of care is the duck, as more important for the preservation of the young brood ; it is argued that where all appear to be ducks birds of prey are less likely to attack the real ducks as the weaker vessels. Others deny any protective purpose in the drake's eclipse, and simply regard it as a return to the standard pattern of ducks' plumage, after the moult of nuptial glories. To whatever it is due, this doffing of male plumage by drakes of many kinds is a remarkable feature of the season ; but their species is recognisable, if not their sex.

The summer plumage of the young starling is still more deceptive. Most starlings, young and old, have already formed their wandering winter flocks ; but many birds with good quarters in gardens will not need to leave them, and a handful of home-bred starlings are to be seen on the lawns all the year. Though the old birds have lost the brightness of the nesting season, they are still easily recognisable as starlings. But apart from them come stalking, often in pairs, birds with brown backs and greyish breasts which have little in



Oliver G. Pike

SWIFT CLINGING BENEATH ITS NEST-HOLE

Long wings and short legs prevent normal perching

common with adult starlings but their straddling walk. These are the "solitary thrushes" or "brown starlings." It is amusing to mark their solemn gravity, which so successfully hid their immaturity and specific identity from the best authorities a century ago. They could have hardly maintained their disguise so long, if starlings had been as abundant then as now ; but the vast increase and wide extension of this species are events of the past half-century. Young moorhens of the earlier broods are now as large as their parents, and they too go in disguise ; there are more of the brown-backed and pale-breasted hobbledahoys, and fewer of the sooty infants than in July. The phylactery and the stealthy, distributed step mark a bird of the moorhen's tribe ; but in August the unskilled observer might well believe that he was watching a moorhen of another species, just as Bewick, when he first depicted it, described a distinct brown starling. As the weeks go by, the confiding habits of moorhens enable us to watch how the tints of these young birds change, and how the characteristic white patches appear obscurely, and grow clearer. It is the same with the young London ring-doves, that in August, when the very sparrows dissemble their villainies by eating the seeds of knot-grass, pace the park turf with necks void of the white rings. A little later we may see the growth of the two white

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patches ; even old ring-doves have no real ring. Starlings and moorhens and town wood-pigeons are wise enough to confide in man's goodwill, and we can mark their altering phases ; but it is different with the shyer birds of the thicket. A dull brownish bird with a pale patch above the tail may be recognised in a momentary glimpse as a young bullfinch ; but few have watched its transfiguration into black and rose and grey, which it achieves among the early autumn shadows.

The apparent inertness of bird life in late summer is itself a disguise, and beneath the apparent stability of the moulting season the tide of migration is already running. The beginning of the autumn passage is signalled to most people by the flocking of the swallows and house-martins on roofs and telegraph wires late in August, or in early September. Yet by the time that we see them advertise their departure many have already gone. The shortness of many birds' stay in their breeding-quarters is wonderful to heavy human travellers ; and those that come furthest are often the most impatient to depart. Caged migrants fret with passionate restlessness at the crossing-time ; once the young need the old no more, both weary of England. Even in those ripe gardens where the birds appear so content to drowse out the moult in the late summer sunshine, there is a great decline of life since June.

Partly this is due to the swift extinction of so large a proportion of the young birds within a few weeks of their leaving the nest's protection. The pairs of young starlings which we see to-day are all that is left of broods of four or five ; and other species have suffered in like measure. But many old birds have deserted us. Blackbirds and missel-thrushes range the hills and hedges for wild berries after soft garden fruits are over ; but a large proportion of the smaller migrant birds slip in August towards the sea, or across it. It is difficult to mark the day of their going ; we overlook the last appearance of a familiar species, because we do not know that it is the last.

There is this secrecy about all autumn's first onset ; it filches the strength of summer by abstraction before it attacks us openly with its frosts and storms. The first great theft, after that of the song which ebbed at mid-summer, is that of the keen-winged swift-flocks. Swifts have so multiplied of late years that the abandonment of their summer homes by their main flocks is apt to be cloaked by their stragglers. Twenty years ago, to see a swift after the end of August was as modestly notable as to see one in London. Now they hawk frequently on the Serpentine, and we see them often in September. None the less, by the second week in August most of them seem tired of England, and to resent the encroaching

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night. Their brood of twins has been long on the wing, and there is nothing to keep them in our chilly latitudes, already menaced with a long, dark winter. After a stay of barely ten weeks in the north the swifts wheel southwards into the African sunshine.

The sense of their imminent departure invests the swift-flocks with a deeper fascination as they circle in the cool evening air. Those thin, wild voices call up some of the intensest hours of summer light ; like the sundial, they mark only the bright ones. With August and September still before us, the swifts do not afflict us with too keen a sense of regret when they remind us, by their ardent vociferation, of the flash of bat on ball, of the dry fly stream alive with intersecting circles in mayfly time, or of that keenest hour, but one, of the swifts' own life, when in the first sunlight of hot July mornings they rushed by the eaves and clung in the sympathy of intense vitality to the house-martins' nests. Those wild joy-rides under the newly uplifted eye of the sun seem excelled in rapture only by these evening flights as twilight is beginning. Swifts soar, like seagulls in fair weather, simply for joy in life ; and no one knows how the flight ends—whether the birds evade our eye as they return to their roosts in roofs and steeples, or whether, as many assert, they ride all night on the Olympian air. Some swifts have

been caught at night on their nests ; on the other hand, a circumstantial account has been published of an airman who found swifts floating at night at a height of over 9,000 ft. Like the greatest height at which birds fly, this is a mystery which airmen soon may finally answer.

At the first glimpse it seems strange that, while swifts end their nesting so early, birds of such kindred habit as swallows and martins prolong their own so late. In many a parish, swallows and house-martins are the only birds nesting after July, while both may be found with young in the nest late in September, and the martin even in October. This dilatoriness is pleasing, for the breeding instinct makes the birds sing throughout the season ; and though the swallow's low warble or the house-martin's chuckled soliloquy is no great music amid the riot of May, it is sweet and homely when most birds are silent. Swifts and the swallow tribe belong to widely different orders, and their difference is measured by their cries. Swallows and martins are merely the most swiftlike songbirds ; swifts belong to the less articulate assemblage which includes woodpeckers and kingfishers, as well as nightjars and cuckoos. Swifts have one brood, swallows and martins two or three ; thus swifts are ready to see Africa while their fellow-migrants are still tied to nurseries in cottage or barn. Nightjars also nest but once,

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and leave early. They, too, are the most adventurous northward migrants of a southern tribe. They drift southward when moths become less plentiful in the lengthening nights ; and though we do not know the swift's exact diet, it seems likely that he, too, finds his choice scarcer, as the contracting daylight chills the higher air.

Birds'-nest soup is made from Asiatic swifts' nests compacted of almost pure saliva ; our own swift makes a coarser and slighter nest in much the same way, but uses scraps of straw and feathers. It is much less elaborate than the sand-martin's rough but ample cushion, and cannot compare in the pains of creation with the mudwork of the swallow and house-martin. This may be another reason for the swifts' early migration. Swallows' and house-martins' nests are both built of mud pellets, but to suit different sites. Swallows built of old in caves, house-martins on rocks, and while the swallow's nest is open, and has spotted eggs, the martin's is closed, and its eggs are white. But the difference between swallows' and house-martins' nests has been increased by modern buildings, and to the advantage of the house-martin. On irregular rocks, many of its nests form two-thirds of a sphere ; under eaves, and especially against a corbel or in an embrasure, much less building is necessary, and the martins' chance of rearing three broods in the season is

improved. Yet Nature loves to obscure the details even of events so conspicuous as the swifts' and swallows' migration. A close watch on the Kentish coast sometimes shows house-martins stealing over the sea before the end of August, and storm-stayed swifts wheeling in dense flocks over English soil when most haunts inland are drained of them.

In August the plainest proof of migration, except the actual sight of birds crossing the sea, is to be gained among the hill-streams and on the moors. Even grouse are migratory, though their migrations are limited; but many of their neighbours among the heather, as well as on the grass moors and beside the torrents, are migrants of the most marked type. In June and early July golden plover still haunt their hill-top nesting-places; curlews prolong their wild warbling over their young hidden in the bracken and among the cotton-grass; sandpipers call shrilly about the shingle beaches; the so-called grey wagtails flash their yellow tails over some wave-washed islet to which their young have fluttered; and the rough slopes are alive with jerking whinchats, and titlarks descending parachute-like in late song. August is not far advanced before almost all this life has vanished. Only the titlarks remain in their old numbers, and they have ceased to be song-birds, and flit before us with a thin,

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piping cry. The sandpipers have left their wave-washed beaches, and reappear in twos and threes on the soft banks of the midland and southern rivers where they were seen passing north in spring. Golden plover rise in wary flocks ; they too have severed their concern with their nesting-places, and are on the wing for their distant wanderings. Here and there a curlew still lingers in the lower valleys, but with the music of spring forgotten ; instead of that jubilant warble, or the persistent musical repetition of its name, it utters it harshly and seldom, or else departs with that angry and grating yell which suggested its Northern name of whaup. Gone, too, are the anxious whinchats from the bracken-tops, and almost all the gilded wagtails from the torrent-banks ; in August they begin to seek the lowlands, or halt for the winter by village bridge pools far down towards the plain. By the time that the heather is in bloom the moors are lonely for those who know them at midsummer ; all that busy life has left only a few feathers dropped beside the peat pools, and a silence that listens to the bees.

While most of the birds which leave the hills move to lower levels, for a time there is a counter-migration of a few species to the higher hills. Visitors to the English Lakes in August and early September find the tops of the higher fells unexpectedly peopled. Troops of missel-thrushes

rove over the grey slopes at a height of above 2,500 feet, where grass gives place to mosses, and Alpine lady's-mantle, and dwarf berry-bearing shrubs. They nested in spring in the valleys, and will return to them after they have stripped the rowan-berries on the fells' flanks ; meanwhile, before the autumn winds bite coldly, they range the mountain tops for autumn fruit. Missel-thrushes on the fell-tops strike the eye as a shade browner than the rain-washed and lichened rocks, and paler than the crusts of dusky moss ; and they often despise concealment, perching as conspicuously on the crown of a boulder as when they take post to sing in the ash-tops on some February morning. The ring-ousels which haunt the same high ridges are contrasted both in habit and colour. As becomes their name of moor blackbird, they are much darker, though in autumn few even of the cocks approach true black. As they flit through the skirts of the hill clouds they look leaden grey. They choose stony places and are clever at hiding among the stones ; time after time, on the rugged shoulders of the Welsh or Cumbrian mountains, we may flush a score of ousels and see not one of them until they flit again. Mountain berries are the ring-ousel's prime diet in later summer, when even blackbirds go for bilberries to the moors ; yet it is not merely the quest for congenial food which

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collects them on the mountains, but their method of migration. Unlike curlews and most wading-birds, which are equally happy at sea-level, ring-ousels avoid the lowlands, probably from the absence of their familiar food. Gilbert White marked them year by year on the high cliff over Selborne, in Hampshire ; and both in spring and autumn they move like a giant in a fable, with strides from hill to hill. Wheatears have a little of the same habit, since their choice of smooth, even turf often induces them to rest on high, sheep-cropped ridges, in their summer stages to the South. But wheatears do not despise turfy commons and sheep pastures at low levels ; they are conspicuous as early autumn visitors to many lowland parishes where they never nest.

Even on our moors, where the ebb of life strikes plainest, the waders—curlew and sandpiper and golden plover—are the most conspicuous loss. But for their habit of migrating by night, the August movements of this great and mobile tribe would be far more apparent. Britain lies on one of the great pathways of migrant waders from the shores of the Arctic Ocean, where multitudes of diverse species rear their broods on the mossy tundra under the midnight sun. Of some, such as the knot and curlew sandpiper, the far north is the only nesting-place, and few of their nests have yet been seen by civilised eyes. These are

reinforced, as the snow-sheets melt in early summer, by many other waders with a less exclusively Arctic range. On all alike autumn begins to close in August, and the threat of dark and cold sends them hurrying southward while summer is here at its ripest. In June some of these waders were still passing north, and the vanguard of the returning hosts is often noticed before the end of July ; so brief is the season for which they travel immense distances, and so intense their activity under the concentrated midsummer daylight of the far North. Most of these waders utter cries of a pure and fluting resonance ; and on dark August nights, even in London, it is not uncommon to hear the calling flocks as they pass unseen. The darker the night, the better is the chance of intercepting these waders' signals, for they call to keep in touch with one another, and are noisiest when their range of vision is most confined. They are excited, moreover, by the town's innumerable lights—partly, as it seems, because the flash of lamps on the surface of rivers and reservoirs suggests an attractive halting-place, and partly because of the mysterious and still obscure attraction of bright lights for birds as well as many insects. These wild, sweet calls far above, as the thunder of the streets dies down towards midnight, are even fuller of remote and haunting suggestion than the

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first song of the missel-thrush over the town squares in a windy March dawn. Both cry of distant scenes and changing seasons ; but while the thrush's voice brings a vision of spring breaking in English lanes, the voices of the Northern waders are charged with the loneliness of the Arctic wilderness and the wonder of their journey.

Many of the birds that left the hills and moors are found in August on the sea-shore ; and from the beginning of the month they are reinforced by waders from further north, though the full company of birds of passage or winter residents is hardly complete before late October or November. Even by early August the flatter sands and estuaries of our sea-coast grow far more animated. Except for the small black-headed gull, which usually seeks a marsh inland, most gulls nest on sea-cliffs and rocky islets, and not beside wide, smooth strands. Terns drop their eggs on sand and shingle alike ; but they are fickle and gregarious colonists, and their intense activity in the earlier weeks of summer is concentrated on a few restricted haunts. Even the boldly pied shelduck, which are typical birds of sandy estuaries, are least visible in early summer, when the hen-bird—hardly less handsome than her mate—is hidden, brooding, in a burrow. Thus about midsummer most sea-strands are bare of water-birds ; often

there are few to interest us except a pair or two of ringed plover, and some unmated and idle gulls. By August, when the life of birds inland has abated, the sea-shore becomes alive. Gulls have scattered already from their nesting-places, the blue sea and yellow sand become populous with white breasts and grey wings, while the brindled grey-brown young add variety and amusement. There is the same ludicrous contrast between the cushion-like figure and infantile, complaining cry of a young herring-gull that provokes us in a fledged cuckoo ; and where these young gulls settle, as they do often, about some busy fishing hamlet, they are equally certain to be overfed. Terns are more oceanic than the long-shore tribe of gulls, and little is seen of them once their nesting is over ; but the beautiful shelduck are multiplied as the ducklings gain their pied plumage, and float in company with their parents, freed from labour. Shelduck are ducks much like geese, and the drakes do not assume eclipse. Huge flocks of lapwings waver over the estuary meadows ; and below high-water mark, which lapwings seldom cross, the gathering troops of waders feed and cry in the mellow summer sunshine. Some, like the ringed plover, feed close below the line of drift-weed, as well as on distant banks ; others, like the curlew, are oftener seen far out on the shallow shore. Always

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most wary, curlews have now no nest or unfledged young to tie them, and without long waits upon their line of flight we shall seldom see them as close as among the upland heather. But the curlew is a giant among the common waders, and that long, curved beak which shouted "Coorlie!" wide-parted, among the bents and ling, is still conspicuous far out on the flats; and now and then we catch an echo of that familiar cry, when an ebb-tide bares the inshore feeding-grounds under the security of night, and the waders answer as they assemble. Then the musical cries of the redshanks come mingled with the curlews' calls; and by day we see them probing the sand-beds in the curlews' company, or scattered in two's and three's about the estuarine ooze. They are as wary as the curlews; but they seem conscious that their smaller stature makes them less conspicuous among the weed-covered pebbles, and they often feed closer inshore. The smaller waders form in August the largest flocks. Ringed plovers skim past in parties of eight or ten; but by far the most numerous and conspicuous troops are those of dunlins. Even more than the curlews or the redshanks they display the wildness of late summer, which corresponds among waders to the furtive concealment of the song-birds of gardens and lawns. As the dunlins halted among the tussocks of some

wet pool high in the moors, on their way to their nesting-place in early May, they were almost as tame as the phalaropes in the Hebrides. They crept like mice or rats before the feet of the human wader, and only at last, and unwillingly, took wing. They were loth to leave what looked like home. Now, with the nest forgotten, and their young in the air among them, they are the most mercurial birds of the shore. Their troops are swifter than the starling's, and more compact than the plover's. They move through the stillness of the August sunshine with a kind of electric flash. As they rise their greyish backs look like lifting sand ; then suddenly they change plane, and all their breasts flash silver. Silver, too, among the brownish tribe of waders in autumn are the sanderlings now returning from high latitudes ; the backs of old male birds might be coated with hoar frost or frozen foam. Sanderlings are often tamer than most other waders ; one will run before us at the water's edge all across a bay, never quite allowing us to overtake it, and pecking food as it goes. Sanderlings snatch their food from the sands ; turnstones, with their queer pied faces, lift the shingle and the trailing rockweed ; and them too we may meet from the beginning of August along our coasts. Some have been found as early as July, and since the known limit of their breeding range lies as far

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south as Denmark, they may one day be proved to breed in Britain. Week by week the waders will muster more thickly in their favourite oozy haunts, and the species familiar in August sunshine will be joined, as the north wind resumes its reign, by knots and grey plover and purple sandpipers, and rarer members of the same great tribe. Most of them pass on south by the birds' great track to the coast of Portugal, and on into Africa. But many will be with us all the winter ; where the North Sea thunders among the Suffolk sandhills, the sanderlings will pick wrack from its ebb, and when the Atlantic beats in January on the rocks of the Lizard, the clown-faced turnstones will climb a little higher among the rock-tops strewn with shattered crabs.

In August terns go south like the marsh birds ; as we cross from Dover to Calais, we cut the path of little troops steering south-westward, ignoring the land. Gannets troop down more slowly into the English Channel, and most of them drift on to the fishful waters of the Atlantic coast of Morocco. Terns and gannets are the most graceful of all winged fishers, for they have acquired mastery over the creatures of the waters without surrendering the freedom of the air. Only the little kingfisher can compare with them, as he sometimes hovers like a throbbing core of light over the smooth surface of the river ; but usually



Oliver G. Pike

IS THE COAST CLEAR?

The Dabchick looks round before uncovering her eggs

the kingfisher sits gazing until he plunges, and his brief dart breaks a long immobility. Terns and gannets alone of true fishers spend hours in buoyant cruising above the waters, as they search with tireless ease of flight for the shoals on which they prey. In actual mobility under water they are inferior to cormorants and divers, and even to scoters and other diving ducks ; but all these move heavily on the wing, and their submarine agility is concealed from us.

Gannets and terns seize their prey not by following its twists and turns, like a flycatcher chasing a peacock butterfly in the garden, but stake all on a single plunge. This lends a sympathetic fascination to the actual swoop ; we wish success to its precipitancy. In its swallow-like grace the fishing tern excels even the gannet ; for all its powers of flight, this has a heaviness of build which makes its name of solan goose seem plausible. But the peculiar attraction of both birds' fishing is in this moment when they launch themselves downward, waking a fountain from the sea ; and the spout of the gannet is much higher, for its body is far stouter than that of the largest of the terns. There is unique brilliance in the spectacle of a troop of gannets fishing on some clear and windy morning off the west coast of Scotland, when the sea reflects the deep blue of the sky at the zenith, and the crests of the waves

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are whitened by a north-west wind pulling against the tide. Sea and air are tense and vital, framing the rocky islands and the towering coasts of the mainland with boisterous white and blue ; and into the blue fields plunge the strong white fishers, each with its answering spout.

Adult gannets are of a snowy whiteness upon the wing, distinct from the various shades of grey which coat the backs of our gulls, and accentuated by the black of their wing-tips. Their heads have a yellowish tinge hardly apparent at a distance ; young birds are darkly mottled, and duskier than young gulls. In flight their long pinions and outstretched necks give gannets an ungull-like shape, easily perceptible even in mist and fog when in winter they haunt the middle waters of the English Channel. The apparent length of the head and neck is emphasised by the long, stout, stabbing beak—a formidable weapon with the weight of the plunging bird behind it. Gannets dive from a varying height, perhaps corresponding to the depth of their prey beneath the surface.

Sometimes they appear to plunge from six to eight feet in the air, sometimes from forty or fifty ; and the greater the height from which they fall the louder their dash and the taller the sparkling fountain. They descend not with a swoop, but like a plummet, tossing over with wings out-

spread, and sometimes revolving like a starling descending to roost or—more comparable in weight and strength—the occasional whirling fall of a heron. Gannets are wanderers over wide tracts of sea, but nest gregariously on a rare handful of distant crags—the world has very few of these centres. Ailsa Craig, mounting guard over the Clyde, is one of their summer haunts, and the next is lonely St. Kilda, that towers like a land of dream on the verge of ocean when the sunset clears. Archaic in structure, and unadaptable as gulls are pliant, they keep the habits of an earlier epoch in earth's history, resting on precipices of naked islands and gaining their food from the maternal sea.

SEPTEMBER

AUTUMN FLOCKS—THE MULTITUDINOUS STARLING—
SWALLOW-ROOSTS NEAR LONDON—SONGS OF
NEW SPRING.

IN autumn most birds become gregarious, and their family life falls into abeyance until spring. This change has a diverse effect on their spirits. Birds bound on distant migrations are seized with restlessness ; the unquiet twittering of the swallow-flocks disturbs the September skies with desire for another shore, just as the chattering of the departing fieldfares thrilled the bare beech boughs of April. To other birds, which intend to pass the winter in our own woods, fruitful autumn brings release from family cares, and a return of ease and leisure.

There is a restful charm in the wanderings of these titmice and tree-creepers and goldcrests through the branches of September. The jealousies between pair and pair, or race and race, are laid aside ; the tree-creeper shrinks no longer from the oxeye, and a cole tit and a blue tit will ramble together as if mated, and prospecting for a nesting-place in early spring. With the fruits

of summer now ripened, and insect life still abundant for those that choose the more delicate fare, these wanderers have found the golden age again.

Most of the vastest bird flocks are formed later, in hard weather; but the September starling flocks outnumber even the great winter congregations of immigrant wood pigeons, or those of mixed birds flying from frost and snow. These accumulations are not as sudden as they seem. Most young starlings leave the nest late in May, and form small flocks after the first storm of wind and rain. Soon the old birds join them, and week by week through summer the flocks grow larger after each bout of storm. Up to September starlings often keep company in the pastures with their cousins of the rook and jackdaw tribe, and also with peewits and wood pigeons. As the nights grow colder they seek more sheltered roosting-places, and gather into greater flocks. By the equinox their massed multitudes often outrun computation, and great troops invade towns. In London they have outwitted the fall of the leaf, and still find shelter, after the plane leaves fall, on the crannied faces of high buildings. Their strident chiming overrides the roar of the street traffic, like the cries of the great troops of sea-birds on their precipices above the stir of Atlantic tides.

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The history of the starlings' flocks since Whitsuntide is typical of many other autumn congregations, except that the starlings' began earlier and are vaster. The human attraction of birds' home life at the nesting season makes us forget how brief it is, and often how incomplete. Most of the birds which insist on privacy for their broods seek food for them close to their nests. Song-thrushes and blackbirds and nightingales seldom tolerate competitive trespass by their own kind. But birds which seek food farther afield are less jealous, and often nest in flocks. The rookery is the inland analogue of the thronged nesting places of guillemots and other sea-birds on lonely rocks. Rooks seek food over the cornfields and pastures, as gannets quarter the sea-floor. The need of reed-warblers for their scarce and local cover often overcomes the passion for privacy of the warbler tribe. Amid the spacious landscapes of the Berkshire and Essex wheat-belts, a lonely hedge is often crowded with the nests of such varied species as linnets and yellowhammers and turtle-doves. Here the congestion is excused, as among the sea-birds, by the free feeding for all.

Even in August, and as near London as Richmond and Isleworth, we sometimes meet sandpipers returning, and halting by the same Thames waters where we saw them pushing north in May. September sees the multitudinous

starlings, and October, in most years, the last swallows, skimming some sheltered common over the half-stripped thistle-heads. November will bring its redwings and fieldfares, and the grey geese trumpeting high over the Yorkshire wolds. All autumn is full of birds on a journey, yet one of our best-known birds breaks the rule of the season and chooses a solitary path. So far from forming flocks in autumn, robins dissolve their pairs and live alone until spring conciliates their jealousy. Most gardens already harbour these divorced robins. We can trace, with a little patience, the extent and limits of their separate estates ; and, although all grown robins are much alike, the cock birds can often be distinguished by their bolder and more acrid carriage. In the garden a robin in September may betray some faint recollection of having once met us—a tribute to Christmas doles or familiarity at the spring nest. Its aloofness is much more marked when it has spent the year in some deep and lonely cover, such as the wild box thickets which are the pride of some of the tracts of chalk down. At first the gloom and lifelessness seem subterranean ; but soon we find that the trees have eyes ; and the first eye is almost always a red-breast's. He, or she—it is difficult to be sure of the distinction—a robin, at least, will pay us a domiciliary visit within a very few minutes of our

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arrival, wearing an authoritative but mistrustful air of inspection, like a rather timid policeman. All through autumn and winter there are few woods and bushy places where one can linger without a robin calling to investigate. When we trespass on a robin's estate the owner may meet us almost at once—sidling up from nowhere with the bushcraft of a competent gamekeeper. If it is ten minutes or more before he appears, he was probably visiting his opposite marches when we entered. In thinner and more scattered coverts it may be longer before his arrival ; for if the bushes offer poor shelter and scanty feeding, he needs a wider tract to sustain him. When spring comes, a cock and a hen robin may combine their two estates ; for then their nestlings will require an ampler hunting ground, even when small life increases. Box-thickets are too dusky in summer to foster the plants on which slugs and insects thrive, and in winter they are proportionately barren ; so, in spite of their close shelter, each robin needs an ample range, and it may be long before he meets us when we enter.

Few other wild birds will share our sandwich at a first acquaintance ; and the redbreast would be still bolder were he not distracted by the fear of other intruders while he feeds. He comes and goes between his mouthfuls with that intimate yet vigilant flight ; and just when confidence seems

established he flits clean away, and may be missing for half an hour again. Birds defend their marches chiefly against their own species ; and though the redbreast is as greedy as he is rubicund, he tolerates birds which eat what he himself despises. Blackbirds dig deeper among dead leaves, hedge-sparrows have a gift of finding invisible nutriment on the ground, and the wren everywhere among bracken and brushwood. Thus none of them competes with him, and he pays them little attention, except when their paths actually cross. Then he drives them from him, fiery in spirit as in plumage, and resumes his solitary invigilation.

The silence and solitude of the robin's autumn hermitage make a strange contrast with the great flocks formed at the same season by the starlings and swallows. Before starling-flocks were yet familiar, the huge September gatherings of migrating swallows gave rise to one of the two most remarkable British bird myths. Even the growth of barnacle geese out of goose barnacles is a less strange delusion than the belief that swallows wintered under water, for the geese were wanderers from far northern seas, while swallows nested in our own farmyards. Nothing testifies to this fallacy more vividly than the way in which so independent and educated an observer as Gilbert White was indisposed to reject it. Truly, he

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preferred to think that swallows spent winter in holes, like bats, rather than at the bottom of the horsepond ; but the vulgar were less critical. Seeing the swallows plunging by thousands in the September evenings to roost by lakes and streams they concluded that they were diving beneath the water, to sleep out the winter half of the year.

Had countrymen in past centuries known our immense flights of starlings, they might have been wavier in drawing their inference about the swallows' hibernation. The starlings that plunge at dusk into the Temple plane-trees or some country thorn-bed are obviously not going under water, and they are seen, though in less numbers, throughout the winter. But this profusion of starlings is a new phenomenon ; even forty years ago their roosting flocks were far fewer, and confined to a far narrower range. There have been fluctuations in starlings' numbers in the past, but we have no evidence of any such multitudes as mild winters and the suppression of birds of prey and the vast increase of suburban building have now thrust upon us. Nowadays, great swallow-roosts are rarer than great starling-roosts ; and there is something yet more inexplicable and fascinating in the frenzied concentration of the swallows to the brink of the cold autumn streams.

Swallows roost by rivers and lakes in the willow-beds, or else in reeds and rushes ; and this

choice of a haven seems due to other attractions at migration time. Young swallows, and also young house-martins, have sometimes not left the nest by the end of September; but many weeks earlier the bulk of both species in Britain begin to drift towards the south.

Since river-valleys are often highways of migrating birds, while in autumn, and in cold springs too, they provide the richest supply of insects, it is natural for the swallows which have followed the waters and fed upon them, to seek shelter for the night upon their edge.

In one of their great Thames roosts, which often change as the osiers are cut on the aits, the gathering of the swallows begins when the sun is dipping into the mists on the horizon. Small flocks of from a dozen to about a hundred birds are seen hurrying low over the river, or across the marsh or meadows, to some central point. If we mark the course of one of these contributory flights, we see it presently rise high in air, and form a vast dust-like swarm restlessly circling a couple of hundred feet above the river. At this height and in the fading light the swallows look like scraps of burnt paper whirling in the draught from some vast rotary fan. From the sky falls a thin, countless twittering. The sun has dipped, and now the birds descend—not simultaneously, but in a steady and constant stream. They do not

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swoop, but fall—tumble straight out of the sky with a flicker of the wings, like a butterfly, and disappear in the dense foliage of the willow-bed. Soon the murmur on the ait grows louder than that in the air; the whirling multitudes grow fewer, and every swallow but a few inconsequent stragglers is immersed in that simmering hive.

But for the multitudinous murmur, which dies down as dusk deepens, it is hard to believe that we have just seen at least fifteen thousand swallows—probably nearly twice as many—plunge to concealment in the leafy shadows of one small ait. Sometimes there is a distraction among the flocks in air—a troop will break off to chase a crow, or, with wings stamped like the flukes of an anchor against the misty blue, a hobby-hawk, which can catch even the swift, darts to cut off a straggler. The roost will probably be filled again for several nights, but not always with equal numbers; calm weather tempts migrating swallows to move in a leisurely stream, while after a burst of storm to the north the Thames-side hostel is yet more crowded.

Swallows play no part in the dispersal of fruit and weed seeds, so nature can spare them. Most of the birds which linger with us perform an unconscious service, when September kindles a riper lustre in the berries which summer has swelled. One by one the wild fruits brighten

in specks and clusters, among the green leaves which half concealed them ; the rowan droops its sagging discs of scarlet, and the whortleberry paints its dark beads with a purple bloom. Ripe berries, like dying leaves, are of many colours ; and though their bright hues help to secure the birds' ministrations, birds' tastes allow each plant's bent a large measure of liberty.

Starlings rifle the black elderberries almost as greedily as missel-thrushes the vivid bunches of the rowan. Beneath their roosting-places in the heart of London crimson splashes betray how they have gorged upon the laden elder-branches round the suburban fringe, or far, perhaps, on Surrey or Hertfordshire commons. Blackbirds thread the shadows of the stream-fed valleys up to the open moors, and glut themselves on the dark and juicy whortleberries. Long hence, in December fogs and March frosts, the wood pigeons will bolt the black pills of the ivy berries. Nor is there any rigid rule of Nature forbidding birds to gorge on berries before they are ripe, and before they can serve the purpose of disseminating them. In the London parks, where wood-pigeons can be watched intensively in their tameness, we see them stripping the green beads of the exotic hawthorns in July. Starlings hack and mangle unripe cherries even at midsummer, so bold and so hungry, under the stress of their multitudinous

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predominance, that they will attack the very trees under which we sit. There seems the same fascination in berries for birds as for the small children who are betrayed by the poisonous brightness of deadly or woody nightshade berries. But while children have paid the price for dawning intelligence in the loss of saving instinct, wild birds avoid poisonous berries, or, devouring them, as the robin devours deadly nightshade berries, are proof against their poison.

A berry's mealy flesh or juicy pulp pays its passage to scarcely accessible situations. The little fruit trees that deck the corbels of old ruins are sown by birds, for only by some rare accident can the wind carry a compact seed of yew or whitebeam or hawthorn like a silken parachute of willowherb or dandelion. Missel-thrushes in September raid suburban roads for ripening rowan clusters ; and now, too, far in the Welsh combes and Northern dales, rowans are being stripped by the southward-bound ring-ousels. Rowan berries vanish swiftly ; vermilion rosehips and scarlet holly berries and crimson thorn-haws linger later ; after a winter's mildness many holly boughs are still crusted, as with red fish-roë, in May. Beneath the snow blanket on the Highland mountains the crowberry and whortleberry and cowberry are preserved in cold storage to feed the ptarmigan. Probably most berries are framed

for patience in germination, and for surviving many vicissitudes before the kernel finds a home. Hawthorn berries do not germinate until their second season ; planters must store them to await the leisure of the germ.

Most wild berries are nowadays left to the birds ; we make less use of elderberries, and few can even recognise the wild service berry. It is odd that blackberries, on the other hand, are much less appreciated by birds than men. When we see a redbreast or a blackbird picking a blackberry from the September hedges, it is a sign of dry weather, and of thirst among the peoples of the wild. Later in autumn teal and mallard search for blackberries by the marshy brooks, and foxes will eat them too. But they miss, to most birds' taste, both the juiciness of the crab-apple or berries of the water guelder, and the substantial attraction of the kernels of the hornbeam seed or the sloe. Every bird that we see blackberrying is worth noting ; we shall not make a long list in ten years.

Ebb and flow are always contending in the year's tides ; the snowdrop faded before the blackbird sang, and in the very heart of the silence of the birds' moult we heard the redbreasts' new music. Now, as the emigrants vanish, and mornings grow darker and more dewy, there is an anticipation of other songs. Like the hazel-

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bushes already tagged with next year's catkins, birds give hints of spring. After six or eight weeks' silence, the song-thrush begins to sing again, often in drizzling weather that to us heralds the autumn rains and fogs, but to the bird suggests the freshness of February. These strains are premature, like the onset of the autumn rains that roused them ; but they show how life is stirring again in the songbirds after their moult, ready to flower in music. After their brief but complete silence, the old redbreasts are singing again at dawn, or when evening sheds a dewy coolness, or after the passage of a shower. Young redbreasts begin to sing before their breasts are fully red, while they still retain their yellowish chequering ; so ardent are their hearts for love and strife. In the stable yard we see young cock sparrows, which a month ago were still in baby plumage, and followed their parents with begging cries, now holding their own among the quarrelsome flights, with their breasts patchily blackened with male feathers. On the lawns grave and priggish young woodpigeons strut with white neck-patches, like stick-up collars ; and the mallards on the park ponds begin to shed the eclipse plumage in which they have been hiding, like Achilles, among women, and give a distant hint of the splendour of their drake's attire. All these new feathers and new songs are plain forecasts of spring ; more

equivocal are those sweet and fugitive murmurs, a whispered echo of their showery April music, which the chiffchaff, and sometimes the willow-wren, sing to themselves in the dewy garden shadows as the sun climbs high. Such a song is both the first and the last, the end and the beginning ; it is parted by the July silence from last spring, and from next spring by the double African journey.

The brown owl's full-voiced chant revives as the leaves begin to fall ; it swells clearer and clearer throughout autumn, as the bared trunks yield a more resonant echo. In the roofed aisles of the woodland sanctuary the music gains mellow volume like the peals of the organ in a cathedral. The autumn music of most other birds is an imperfect anticipation of their song in spring. They sing because the keener air, and their vigour reviving after the moult, suggest to them the eagerness of the nesting season. But the wood owl sings more freely on early autumn nights than in those chilly weeks of early spring when it begins its nesting. The man-faced bird's " Tu-whit, tu-whoo " has forced its way into literature by its familiar reiteration ; and yet the traditional syllabic version is a disparagement of its sweet September call. The wood-owl by day looks shamefaced, or at least lethargic, as he perches with shrunken contours beneath some

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umbrella-like ivy-crown. By night the sweet and hollow wood-notes call up a contrasted picture—that of the owl in alert and buoyant activity, with the new nap on his feathers dulling all sound, as he floats between the shadowy beeches.

The season and the occasion of the brown owl's most heartening cries suggest that they are not a prelude of mating fervour, but the overflow of less specialised vitality. Owl cries to owl in these nights of the harvest moon for joy of active life, as they course the glades in new bloom of silent feathers. Owls, and perhaps most other birds, usually mate for life ; and these are birds so old, or with such grey heads revolving circumspect on young shoulders, that they may ignore the annual celebration of monogamous joys, and prefer to hymn their autumn hunting. It is a tortured and improbable explanation that they cry aloud to paralyse their prey with fear and make an easy capture. Brown owls feed largely on small birds, and they hunt when other birds are at roost, snatching a blackbird or a greenfinch from some exposed perch among trees or bushes. The victim is motionless already and does not need to be checked for death, like a rabbit coursed by a weasel. That music of the nights towards Michaelmas is neither a love-song nor a deliberate menace ; it warns us not to measure all nature with the same foot-rule.

Brown owls destroy mice as well as birds, and mice abound now, at summer's close. But the white screech-owl, which is the chief mouse-eater, as a rule does not attempt to snatch them from the thorny fastnesses where they hunt for nuts and berries ; it seeks them in the open lanes and meadows. Few birds like winding a way through thorny bushes, which may spoil their flight feathers by unhooking the small clasps that keep their vanes compact ; and probably the brown owl seizes them as they cross from bush to bush, or climb the hedge-banks stripped of shelter by harvest drought. Inside the bramble-patch or the lissom thicket of wild clematis the night mice can twitch and gnaw in safety, while the night resounds with mellow hooting, or the rarer shriek of the Dutchman's " death-bird." Dormice are still awake on these October nights ; and the dormouse, so sluggish by day, is after dark as nimble as a kitten. We shall hardly see him as he climbs the hazel stumps with his prehensile tail crooked beneath him like a seahorse, or rustles over the fallen leaves in the hedge-bottom ; but if we care to search the ditch by day we shall find his fresh shells smoothly opened by a round hole just edging the husk's scar, as if its roughness had given his teeth purchase. Through so small a hole the dormouse gnaws out the nut's kernel ; and finer still is the fretwork of the slender

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woodmouse. Pick over the dense and varied seed-heaps with which, night by night, it fills old birds' nests, or builds nest-like clusters among the clematis bines ; the delicacy of its perforation is hardly credible. A sloe-stone is breached by a smooth hole not at the side, in dormouse fashion, but at the point ; and equally precise and defined is the orifice in far smaller seeds, down to the whitebeam kernel and the minute plumed grains of the clematis. The woodmouse can make and feed through a hole hardly larger than the prick of a darning-needle ; it drills less like a mouse than an insect. Climbing thus at night, dormouse and woodmouse invade the perches of sleeping birds ; and no doubt owls snatch them among the twigs, like a sparrow or linnet.

OCTOBER

BIRD PENSIONERS—WAIFS OF THE GALE—LINGERING SWALLOWS—THE FRIENDLIEST HAWK.

BIRDS divide themselves at the season of migration into the wild and the tame. High in the October sky over the Norfolk shores or the fringes of the Yorkshire wolds the skeins of grey geese come clanging, but only a faint answer of ancient migratory instinct stirs in the farmyard geese below. As the bugle-note of their wild cousins floats down, they lift bristling necks, pose amazed at the articulate sky, flap wings, like those of Dürer's "Melancholia," too impotent to lift their earth-born robustness, and fall to gobbling the orchard grass again.

Even among wild birds of the same species autumn brings an alienation between the settled pairs that have become half-civilised and the hungrier tribes. How often in October we find our lawns and gardens invaded, especially towards dusk, by excited and clamorous flocks of pied wagtails, veering from the house-roof to the tree-tops, and settling, perhaps night after night, in the thinning shelter of some outstanding shade-

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tree ! These are birds of the same blood as the pair which nested in April in our ivy, again in June under the expanded leaves of the outdoor vine, and now are wintering about the stable-yard or by the farm-pond. Yet the settled birds and the wanderers seem to have nothing in common ; by day or dusk they do not feed together, or sleep together, or converse together, except in occasional chatter with a perceptibly hostile suggestion. Our own wagtails sing oftener in October than in spring, but the nomads have no music. They are truly wild birds, as our garden settlers have almost ceased to be ; and when the last leaves of the beech that shelters them fall, they will depart, and leave our own pair in possession.

Such a difference confronts us all through autumn and winter among birds of many kinds ; and it is mainly a man-made antagonism. Our gardens and the crumbs that fall from our tables—even the frayed scraps of our carpets and clothing, and the workbasket's stray threads—all these help to provide sustenance and material for all needs of the year to a privileged minority of winged species. Even so exclusive a waterbird as the reed-warbler will sometimes desert its reed-beds for a lilac bush in a garden, and bind its nest with ends of cotton instead of reed-plumes. But the final test of good quarters is

that they are habitable all the year ; and the approaching pinch of winter fines down our garden company to few kinds, and few birds of each kind. A fair-sized garden, with a supply of water which in frost may be reduced to the yard-dog's trough, will probably support one pair of wagtails. To redbreasts, thrushes, blackbirds, starlings, hedge-sparrows we are a little more hospitable ; our modest domain will probably support all through winter several pairs of each. These birds have fixed nesting quarters for spring and the strength to use them early. While the wandering mob spend weeks in beating back to some old haunt in the wastes and wilds, and in recuperating until they are fit to engender, the minority in yards and gardens rears a plump brood in dependence on man.

To bird-lovers, cold and blustering autumn weather is less unkindly than it seems. Chilly days darkened by winter's bent skies drive a myriad birds on new paths and change the habits of most that linger. The brighter species, with their moult completed, are more brilliant than in July or August, and shine more splendidly amid the season's ashy monotones. The goldfinches that sprang and twittered in the garden shade-trees all through their long, sunny nesting season seem transfigured, not eclipsed, by the leaden and biting skies of late October. Beautifully as

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they flickered among the leaves of June, they are still more exquisite as they alight precipitately, like a cluster of live flames, on the tall-branched candlestick of the dry burdock or wild teasle stem. The burning blue of the kingfisher strikes a more fiery contrast from the lemon and orange of the thinned willow leaves than from the ripple of the June wavelets. It is the compensation of the cloudy and dark day that its least garish colours glow by contrast with its leaden bareness. In the half-stripped October garden even a crown of purple cabbage shines with a heartening richness ; and when a gleam falls from the formless and creeping sky it kindles into surprising richness of mingled browns and greys the shuffled plumage of the hedge-sparrow.

Little is seen or heard in most inland places of the vast October migrations which band the night skies, and often days also, like the stars of the Milky Way. Wind and rain and shut windows make the night emptier of the cries of the trooping hosts than during the first rush in August. To realise the numbers and diversity of the migrating hordes we must repair to some famous point, like the North-East Norfolk coast, on which tired travellers congregate. There we may see the migrating birds, as Virgil saw them in autumn by the Mediterranean, fluttering in as thick as leaves from the sea—often thicker

than the scanty tufts of grass which fail to hide them.

Our whole conception of the number of exotic species which annually visit this country has been enlarged by the rarities recorded in a few migration seasons on the rocky fleck of Fair Isle, between the Orkneys and Shetlands. Yet into the quietest lanes and most secluded and stormproof gardens October diverts foragers or stragglers from these Grand Trunk Roads of migration. Grey wagtails, with primrose breasts and buttercup tails, balance on the watercress beds half choked with matted oak leaves. Pied wagtails often leave the water just at this season, and form flocks which feed in the sheepfolds and on ploughed fields, and dash at dusk to roosts, still leafy, in our gardens. Meadow pipits from the fells and moors are seen feeding in meadows, and justifying the name which, like that of the wall-creeper of the Alpine crags, was given them in winter intimacy. Many of these pipits and wagtails may not have travelled very far; the grey wagtail begins a leisurely migration from Wales and the North as early as August, leaving its spring companion, the dipper, behind it. But every morning, if they have not greeted us already, we may meet redwings from Sweden flitting, swift and timid, from yellowing elm-clump to elm-clump, or the bolder Norwegian fieldfares

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chattering as if in astonishment at our smooth green fields.

Twelve hours' rain, wind, or snow from the North fiercely accelerates the migrants. On the morning after an autumn gale, and especially a cold gale, there is hardly any spot in our narrow island in which we may not find some stormcast alien. Scarcely any bird is less of a landsman than the little auk, which feeds less on fish than on the confusion of minute sea-creatures known as zooplankton. Let the winds roar into some vast October eddy over the inland fields, and for its few remaining hours of life this compact and friendly-looking little Iclander may pitch down anywhere. London is regularly frequented in winter by grey wagtails—the trained ear catches their call-note even above the tramcars grinding on the Embankment—and though nearly fifty miles from the sea, is near enough often to serve other birds of the auk tribe as a harbour of refuge. Frightened puffins and razorbills floating off the Tower or Blackfriars Bridge are quickly distinguished by the Londoner from his friends the seagulls, but are usually identified as “queer ducks.” While autumn winds fling stray seabirds far inland, they hasten the flight of many inland waterfowl to the sea. Great crested grebes poise their proud heads, half clipped by the summer moult, over the water of sheltered southern bays,

and beyond them gather the first flocks of mallard and widgeon.

While half the world of birds seems flying precipitately into the South, it is curious to see how quietly some of our most familiar birds come home again. In the last week or two our own starlings have come back to the garden, which they left after the young were fledged. Many birds which are mainly sedentary have a habit of summer holiday-making oddly like our own. Blackbirds are no great travellers ; yet in July, when the bilberries are ripe, they leave moor-side gardens and go gipsying among the leafy crowns of the dingles. London sparrows flock to the parks, to eat the ripening seeds of the ryegrass, and sometimes the craneflies ; and it is to be suspected that the starlings piping on the chimney-pots in the pale October sunshine have wandered for three months or more about the fields not far away. They return as a privileged class to the ivied walls in which they were bred, while their young probably swell those huge and restless flocks which rumble like thunder in the October hawthorn-thickets.

Swallows and martins are so purely insectivorous that England seems no place for them after the first frosts ; yet the late stay of a handful of swallows and house-martins in most years is not so singular as it seems. For all their courtship of

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summer sunshine and mild airs, these insect-eating birds have certain advantages for lingering. How far into an English winter do the light flies on which swallows chiefly feed keep their summer stations? All the leaves do not fall until nearly Christmas time; and as long as the leaves cling, some insects still frequent them, issuing in sunshine, or detached by rough winds. There is food for swallows in the lee of a big oak wood on many days up to the end of December. After New Year's Day, winged life stirs less abroad. Goldcrest and tree-creeper and long-tailed titmouse know where to find it among the buds and in the crannies, but swallows and martins would gain little from hunting behind the naked tree-tops. Yet now old habit helps them. Unlike most summer migrants, by tradition they are birds of caves and rocks. Back to the rocks they go—to the sunny sea-coves, to bays in sheltered inland cliffs where the winter wind is screened, and they creep on foul days—or so we must interpret this rather uncertain passage in their history—into dry and frostless crevices.

When the sun shines on such dry nooks, even in January, there is an immediate revival of winged life. Then, too, awaken the swallows from their hungry torpor, and chase the insects in the sun. Thus the survival of the chimney-swallow throughout the winter—and more than one case of this is



Oliver G. Pike

A BROODING EIDER-DUCK

Eiders tear shell-fish from the rocks with their heavy bills

well attested—depends on a succession of mild and sunny days at intervals short enough to preserve life's flame. Nature seems gambling with these swallows' lives against odds ; yet if any of our summer birds are to face winter in England, the rock-haunting and fly-eating habits of the swallow tribe give them not the worst chance.

Both swallows and house-martins are scarce enough after the middle of October to be worth noting, but in most seasons a few martins are reported up to about the middle of November, and swallows a few days later. Swallows in mid-winter are rare, but martins are rarer ; and as yet there is no well-proved case of a martin's surviving in England until spring. If we are to regard the half-dozen swallows reported from South Africa as typical, then house-martins are birds of warmer winter haunts, for none with an English label has been recorded so far south. House-martins, too, travel beyond the Equator, but they halt, it seems, more often within the tropics ; and they return later in spring, as if waiting for warm weather.

After their long and desultory nesting, birds of both species often find themselves with broods still helpless when the October stream of migration is at its height, and storms precipitate winter. Then arises a conflict, painful even to the beholder,

between the parental instinct and that of migration. Sometimes young birds are left to die in the nest ; and it seems likely that some of the immature swallows, with short tails, which we see late in the season have been abandoned as too weak to follow south. But it is doubtful whether the swallows that pass the winter here are young birds. These adventurers are at least as likely to be hardy adults, which the proved individuality of bird habit has impelled to become pioneers. As for the lonely young swallows which we see flitting, feeble and sickly, in the thin November sunshine, their future is unpromising, though obscure. When we see a young swallow perched, with rain-draggled breast, on the sunny wires late in November, it is odds against his reaching Africa.

Not all the swallows and house-martins that traverse England are home-bred birds. Great numbers of both species enter the country from the north-east and north, and quit the south coast for France and the Mediterranean. In fine weather, early in the migration season, many martins, and no doubt swallows also, slip seawards casually in small parties or pairs ; but storm and cold change their temper. Stormy August dawns saw the martin-flocks wheeling and shifting uneasily over the shore, unwilling to face the Channel ; and it is often the same with their

scanty rearguard in November. Like boys shirking a dive into a cold swimming-bath, the birds sidle uneasily along the water's edge ; all the passion of migration has not dulled that old fear of the sea.

How few birds man has tamed of all the scores of species which frequent his company ! The thought strikes home with regret, when autumn robs us, for six long months, of some of the friendliest tribes. What degree of tameness our garden birds show usually comes from their own initiative ; more are attracted by our own orchards and shrubberies than by bird-tables and nest-boxes. We have caught and brightened the canary bird, but it is a wild serin still ; we still must cage it. With all domesticated birds which we allow a measure of liberty we have struck a material bargain—"Stay with us, and we will feed you, that you may feed us !" The art of taming birds is circumscribed by their habits ; no bird that migrates annually to Africa can be expected to make itself at home in our northern winter. But southern birds of sedentary habit have gradually accommodated themselves to changed climate ; it is generally agreed that all our barndoor fowls are descended from the red Indian jungle-fowl. The Romans domesticated the guinea-fowl, and the discovery has lately been made in North Africa of a species distinct from

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that of the Guinea coast, which was probably that selected by them. The turkey could not join us until we discovered America ; and probably far the oldest domesticated species is the rock-pigeon. When man learnt to grow grain, the dove found a new attraction in his company ; when he built in stone, he built also for the swallows and doves.

Many more birds could be tamed if it was worth the expenditure of a prehistoric patience. Wild mallards were coaxed into white Aylesburys because they were the largest fresh-water ducks, not because of any special preference for man's society. In the Alps the common yellow-billed chough has half tamed itself by sharing the luncheon of the climber above the snow-line. Besides impatience, man need only abjure his hostility, and every bird would regain its temper towards him. In some this would merely be indifference ; in others, a companionship of which we only get shy glimpses. There are birds of wild, cold blood which in the world's morning seldom dealt with man, and which it is not easy to propitiate. Spotted woodpeckers can be made tame enough to enter an open window for nuts, cormorants are trained in China to serve as fishers ; but the woodpecker remains wild at heart, and the cormorant yields a mechanic and selfish obedience. The charm of birds, as of

children, is not in any kindness that they may feel for us, but in their grace of life. Yet while some birds are companionable to man by old habit, like the rock-dove, others, like the ring-dove and redbreast and many gulls, are ready to grow filial through adaptive intelligence amid new surroundings. Who would dream, in Swiss woods, how the lonely redbreast becomes the English robin, or have prophesied, forty or fifty years ago, the tameness of gulls and wood-pigeons in London?

Now and then there is a marked overture of friendliness on the part of some species from which we should least expect it; this is now happening in the case of the kestrel. Kestrels are deceptively classed as resident birds, for every October their numbers are swollen by migration. When the wind blows cold from the north, and field mice and beetles diminish, many kestrels leave our bleaker hills and moors and are joined in their passage south by drafts from beyond the North Sea. Even in neighbourhoods where they have not yet been allowed to increase much in the breeding season, on few walks in October, or during the return migration in March, do we fail to see the bold fanning figure hanging high over the pastures or stubbles; and we may hear its wild and petulant repeated cry as we scare it from some rat-filled stackyard.

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Kestrels have been encouraged to treat us more amicably by a change in our own policy. The ancient grudge is half-healed, the hatchet in most districts is buried, and, except in individual instances, the kestrel is now absolved from the charge of being a farmer's and gamekeeper's pest. In wooded districts it is partly dependent upon the magpie and crow, for where neither cliffs nor tall buildings offer a nesting-place it usually settles in old nests of one of these two birds. But as large estates are cut up and game preserving is reduced, crows and magpies are growing commoner. There is a far larger choice of nesting-places for kestrels than there was a dozen or twenty years ago. It is only at first sight surprising that these hawks are often seen in the outskirts of London. Like carrion crows, they found out long ago that the London suburbs held few enemies, and plentiful food. The crows feed on rubbish tips, and along the Thames, especially at low water ; kestrels hunt the rats and mice of suburban building plots, and haunt the railway sidings at such points between town and country as Neasden. Constant feeding on the fringe of London is almost certain to lead to more frequent nesting, if the hawks are let alone. Last year the distant cry of " Kee, kee, kee " drew a wanderer in a new park in West London to a neighbouring pear and apple orchard in which a hen kestrel

was sitting on a pointed pear tree, while the little cock bird dashed and screamed near by. These seemed to be birds which had not nested, but would have dearly liked to do so. They may soon be as familiar at nesting time in the London market gardens as they are among orchards in France.

This friendliest hawk is of the true falcon kind. Though the lowliest in the hawkers' hierarchy, and in old times assigned in mockery to the use of churls, it is a long-winged hawk, with the right brown eye, not a mere dwarf goshawk, like the sparrow-hawk. The round-winged and yellow-eyed goshawk was less used in the much-prized sport of falconry than for the prosaic task of supplying game for table. The habit of both these short-winged hawks is to dash round and over the boughs, and snatch a victim as from ambush. It is rare but exciting to intercept a sparrow-hawk in its brief chase ; but the kestrel's hunting is more spectacular. How cunningly it hangs fixed on beating pinions, head to wind, scanning the ground eighty or a hundred feet below, and how exciting is that plunge ! Often it seems to swoop in vain ; kestrels appear to work hard for their living. But now and then we see the red bird rise from the stubble gripping a plump, half-grown rat, with perhaps a long straw hanging like a pennon ; and we are glad that the bird has won.

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Kestrels feed largely on beetles and grasshoppers, as well as field-mice and young rats ; they take small birds, though far fewer than the sparrow-hawk, and will eat earth-worms. This varied appetite helps them to be almost ubiquitous. Sparrow-hawks, like hobbies, usually cling to woodland ; most buzzards and peregrines now haunt cliffs or, like merlins, the moors. But the kestrel is at home in May from the town tower and the engine-house of the abandoned mine to the woodland and the sea-crags. To think of the kestrels' nests which we have found is to be confronted with some of the sharpest contrasts of English scenery. Memory flies with us from the green beech-forest to one bare tree, the last in the desolate glen, and on to the sea-cliff draped by no trees but one rood-wide ivy-tree. And how distinctive are the red eggs, those incarnadined cradles of the falcon which seem so unmistakably to assert a racial superiority over the greenish shells of the crow or the gull tribe ! Hawks' eggs glorify rapine, as the soldier's red coat embellished old wars ; and though many kestrel's eggs are thick and dusty, like the hobby's, others are splashed as proudly with burning blotches as the sparrow-hawk's at its best.

Besides that fanning flight of the kestrel, which has won it the name of windhover, it has two gaits upon the wing more seldom seen. One

seems commonest by the sea-coast, and is probably facilitated by the air-currents shooting upwards from cliffs. It appears to be the perfection of hovering, in which all beating of the wings is stilled, and the bird hangs motionless, except for slight but tense adjustments of the wing-quills and tail-feathers. The other is a lofty soaring or swinging in the sky, such as we associate with the larger hawks or with eagles. This is noticed on fine summer days; and it seems a form of what can be called, without absurdity, joy-riding. The kestrels appear to be taking delight in their mastery of the bright summer air, just as gulls in London join in an airy dance on clear bright winter days, though at a lower level.

With the grey mists, October brings back to London waters the sea-gulls which enliven them. In August, or earlier, a stray scout may be seen beating solitary, or with one or two companions, over the tideway in the heart of the City; but these are unmated birds, usually in the brown-patched plumage which the smaller gulls wear until their second summer, and lack spirit in their isolation to claim the London welcome. That is lavished when the screaming flights in full adult silver hover red-legged at the parapet of the Embankment, or at the rail of the bridge in St. James's Park, while children and the original and

varied types that haunt the parks toss them the crusts saved for them at breakfast-time far and wide through London.

These gulls lead a double life, with wilful contrasts in summer and winter. By far the greater number of those that troop townward in October are black-headed gulls, called laughing-gulls, and also peewit-gulls, from their cry. Even in days when most gulls are annexing inland territory, these are the most terrestrial and least maritime of their tribe. They nest in dense clamorous colonies in marshes of fresh or brackish water ; and although, so far as we are aware, the nesting-place of no gulls that winter in London has yet been identified, it may be strongly suspected that some of them are neighbours from Essex. Certain gulleries lie as far inland as Staffordshire ; some flocks are mustered under the wide skies of Lincolnshire, others on the hills of Wales. Just as the gulls of the Baltic troop southward in late summer, first to the blue waters of Lake Leman, and then to those, still bluer, of the Mediterranean, so many of our more western birds drift south-westward, troop by troop, as autumn calls, as far as the sunny shores of Portugal. But many turn aside from their main passage into a hundred snug and hospitable creeks and havens, and productive belts of shore, where they learn to claim a dole from men ; and

of all these tidal refuges, London is the largest and the farthest inland.

Watching the gulls as they wheel past the parapets, like an endless dance of moths with lantern eyes, some may wonder why they are called black-headed. The sepia mask is their wedding finery, and though now and then it is almost perfect by Christmas, usually we see it, on adult birds only, a little before March calls them to their windy nesting-places. They scream in it above the Dungeness shingle-ridges, and snap flies with it behind the haycutters in the Welsh hayfields. It leaves in winter two faint dark bars joining the ears and eyes ; only very rarely has the full dark face been seen on a bird in young plumage. As they wheel close past us to seize their dole in the air, always approaching up-wind, we gain a keen impression of the eager and remorseless gull nature. That ridged beak, that stretched throat and cold eye betray cruelty and greed, and though the black-headed gull is far less of a butcher than the larger kinds which sometimes visit London, he, too, will snap up small fledglings in his summer haunts. See how his scarlet legs and bill set off the purity of his French grey back and white breast and tail, which he usually contrives to keep clean even in London fogs, or when he roosts upon a coal barge. The barred tail and blotched wings of his young show how hardly that perfection was won,

as gulls shaped themselves through the ages. But the long immaturity of the gulls—still longer in the larger and fiercer species—is in accordance with their adaptable intelligence when full grown, for sagacity never comes swiftly.

Compare a gull's egg with an oyster-catcher's, or even a curlew's or red-shank's, and their likeness gives the clue to the gull's origin. Even a peewit can swim at need, and gulls are waders which have adapted themselves to the water. But they do not dive, and their very buoyancy is a sign of their instinctive aloofness; they are less at home on, or in, the water than in the air. No bird more literally rides the blast than a gull which hangs motionless in the mounting current over some esplanade lodging, or slides on, with no beat of the wing, above a Channel steamboat. In London its feats of flight are more stereotyped. They are adjusted to picking food from the scum-head of the flood-tide or to narrowing the return circle to the cornucopia of the Embankment office-boy. But now and then we may see a gull hang almost motionless in the air to scratch its throat; and one winter the control of the bird at rest was displayed by a one-legged black-headed gull which perched as securely as any other. These gulls' shouts, whether of fear or greed, need the silence of wide spaces to mellow them to a sound like laughter; in London even the background of

the grinding tramcars leaves them harsh, cold, and defiant. They return the Londoner no affection but cupboard love ; yet the skill of their appeal to him stirs the envy of the greater and fiercer gulls—the greater and lesser black-backed, the herring gull and the so-called common gull—which in hard weather float aloof in the river, and join so distantly in the quest that they gain little, or dare not gain at all.

Gulls are day birds, and seek their roosting-places early in the autumn dusk, some down, some up, the London river. In most winters the point of division lies at about Tower Bridge. On many an afternoon when the south-west wind blows gusty and grey we see the western birds beating low, but with untiring ease, above the roofs of Buckingham Palace on their short cut from the Embankment over the St. James's Park water to the Thames at Chelsea. On crisper and lighter afternoons they weave their aerial dance ; and that is when they remind us of the summer sailing of the kestrel. They soar so high above the river that we can see them from the Kingsway pavements. As spring draws near, and the brows of the old birds darken, these high movements become more frequent and last longer. The afternoon air is bright though chilly, there is a glitter on the tide, in the earth a pang of spring. At last the gulls' serene and lofty eddy draws away, not up-

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stream, as we saw it through the winter, but eastwards, towards the sea. Though there are still gulls on the river next morning, we suspect that we have seen one troop of visitors bid farewell, until another October.

NOVEMBER

GAY BIRDS OF WINTER—HIDDEN WOODPECKERS—
THE EMBOLDENED CROW—BLACK REDSTARTS
FROM THE CONTINENT.

DEEPENING autumn strips the fields of flowers, paints the woods with the ashy blankness of the hoarfrost, but by a paradoxical exception leaves England its brightest birds. The redbreast clings to the shrubbery that the grey-breasted flycatcher has forsaken ; the greenfinch and goldfinch flash far brighter in the roadside thicket than the willow-wrens and whitethroats which have left them ; and of all the troops that have fled to the South, none blazed with emerald like the woodpecker or with sapphire like the kingfisher. The charm of the vanished warblers was in their music and soft summerlike forms, not in splendour of colour ; and even if we pretend to disregard mere brilliance, and urge the attraction of soft harmonies and subtle gradations, there are quaker tints as true to mild English skies in the plumage of the moorhen and hedge-sparrow, that remain with us through winter.

But most of us are not ashamed to take pleasure

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in bright colours when they flash amid the fogs and darkness of November. A glimpse of a kingfisher darting in a blue streak like a daylight meteor, or a green woodpecker dipping among the beech-boughs with almost an oriole's brightness, gives a welcome shock to winter's dullness and reveals the fires hidden beneath its ashes. The very sparrow-flocks about the cornstacks are brighter since winter came, and the greenfinches and yellowhammers have joined them. The yellow wagtail has left the hoary river-meadows, but the so-called grey wagtail, which is still brighter, darts and poises at the edge of the ripple where the sluice-gates drop a tumbling stream. The commonest birds of woods and gardens are among the most gaily painted. Very few of the vanished migrants were as vivid as the two titmice, in blue casque and primrose waist-coat, which swing tail-upmost on the coconut in front of our window ; and April will bring no wanderer at once so large and brilliant as the pheasant, which has kept alive in English woodlands the splendours imported from the shores of the Golden Fleece.

Even our two shyest climbing-birds, the spotted woodpeckers, cannot always hide themselves at this bare and silent season. On the dankest and darkest days we may hear among the old limes in a park, or the decayed elms in some suburban garden, a thin yet emphatically repeated cry.

Peevish and melancholy, it accords so well with the weather's sour dejection that we may hardly notice it. The old trees might be muttering in their November dreams a shrunk echo of the wryneck's springtime welcome. That is the cry of the lesser spotted woodpecker, which frequents the same trees at all seasons ; and now, in a chance ray of wintry light, we may catch sight of his odd black and white chequering, or even of the red patch on his head, or at least may see him loop his way, with the true woodpecker's rise and fall, across the misty gap to the next torn tree-crown.

Such a glimpse makes the dullest day memorable. It is a triumph to set eyes at last on the most evasive of all the birds that haunt our garden. No other that remains all the year has so great a gift for secret colonisation. For all his bulky head and bill, stretched long in flight, the lesser spotted woodpecker is but a little creature, not much more substantial than a chaffinch. But he is concealed still more effectively by his habits. He seldom, if ever, touches earth, and rarely leaves his hunting grounds in the high tree-tops for the trunk of the tree at our own level. We learn his presence by that urgent yet feeble cry. It is most like the first call of the returning wryneck, uttered in cold March weather ; and it recalls the screaming chatter of a kestrel as it falls from some high shoulder of a rocky valley, where the curlews

range. It is not song, for, if so, why should we hear it so often when September languor dulls birds' spirits or among these mists of the declining year? The music of this little woodpecker, as of its larger black and white brother, is that vibrating drub on the high timber which rings far across the Easter woods and fields. Like some mischievous invisible fairy, the smallest woodpecker seems to love to squeak "Can't you see, see, see, see?" when he knows, and takes good care, that we see nothing. If it is summer, his voice is unnoticed in the chorus, or we take it for some half-heard challenge far away. But when the dying year grows ashamed of its impositions at last, sometimes it reveals to the perplexed bird-lover this most secret woodpecker.

Even the greater spotted woodpecker is not great; with more mass in beak and skull for pecking, it is a starling in size, as the little one is a sparrow. This is a more silent bird, uttering a harsh "chick" as it flies; and it has less of the uncanny gift of hiding. A greater spotted woodpecker is rarely long without tapping or hacking the timber, and then, though the noise may be made by two or three other birds—green woodpecker, great tit, nuthatch—at least we suspect him. As he flies, we can see that he too is pied, and may catch sight of a red spot on his neck; but it is only when the wings are closed above his

back, as he clings upright and plies his nasal pick-axe, that he shows us the contrasts of his white spots and splashes with the even horizontal stripes of the smaller kind. What need in their wild and secret life has decreed that these two black and white woodpeckers shall be so like, yet so unlike? Both are chequered, as by Italian sunshine falling through a noonday lattice; but why this richness of shadowed contrast, and the change of the crimson beauty spot from crown to nape? If these markings are protective, it strains credulity to conceive how the larger bird is to be safeguarded by spots and freckles, while the little one, in an environment practically indistinguishable, needs his transverse bars.

Were they beasts or insects, their abrupt and freakish contrasts would make them suspect of "warning coloration"—of advertising that they were bad to eat by markings as conspicuous as the wasp's or the skunk's. But the sparrowhawk eats the large spotted woodpecker, and probably the small one too. The little spotted woodpecker has a beautiful hovering display-flight before his hen; but if the pied stripes as well as the blood-red splashes are donned for grace in wooing, why should they be so distinct in the two species, and why do they adorn the young birds too? The young of both the spotted woodpeckers have red patches on the head, though the adult hens have

not ; and while the young lesser spotted wears his bright mark, like the cock, on the top of the head, the young greater spotted takes a line of its own, and wears the patch on the top of his head too, though the cock wears it on the nape of the neck. Our largest and commonest woodpecker is not black and white, like the two others, but green and almost golden, though no great contrast of habit explains it. And why are these conspicuous and diverse markings worn with but trifling differences, not only by the old birds exposed to woodland dangers, but by the young birds before they leave the tunnelled nest ? Unless our faith in the protective theory of markings defies evidence, we must conclude, once more, that there is a fountain of brilliance in nature which only under definite compulsion forgoes its splendour. Then, and only then, the sitting hen pheasant is subdued to the colour of her dry leaves, or the lichen moth blends with the lichen.

Both the green and the greater spotted woodpecker break cover more freely than the smallest tree-sprite. Green woodpeckers feed in the open on ant-hills, hacking them open and licking up the drowsy emmets with long tongues unreeled. Greater spotted woodpeckers are sometimes flushed from the ground beneath oak trees, where they probably search for acorns. For again nature's resourcefulness is revealed ; these wood-

peckers have partly abandoned the quest for insects in timber. They eat pine-seeds like cross-bills and squirrels, and hazelnuts like nuthatches and dormice. A pair visits at least one Kensington garden for a daily dole of nuts, and when the gardener is away on holiday empties a bowl left as board wages. The old elms which survive from a rural Kensington offer them a decaying hospitality ; but it is strange to see so unfamiliar a woodland bird flicker at a London drawing-room window.

Bird's-nesting in November is full of surprises, though the nests are mouldy and dreary. It is tantalising to discover how many nests eluded us in springtime beneath a few leaves, now fallen. When the stripped thickets reveal their deceptions, most of the nest-builders are far away ; but the bullfinch remains with its handiwork. None of our birds is more sedentary than this brightly plumaged and highly specialized vegetarian, which has not been proved ever to leave this country, and can often be seen in November in the same briar-patch where it nested in May. Winter exposes it by depriving it of its leafy cover ; and unlike the linnet and yellowhammer, which often share the same thicket, it acquires little fresh lustre in the breeding season, but gleams with plumage all but perfect under late autumn skies.

There is little doubt that the bird is named bull-

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finch from its stout build, and especially its burly neck ; the suggestion that the name is a corruption of " bud-finch " is all too plausible to fruit-growers, but is almost certainly mistaken. As the bull throws its strength into its horns, so the bullfinch's neck is the support of its strong beak. The bullfinch can crush a hawthorn-stone, which field-fares and thrushes bolt whole ; and that is a considerable feat for so small a creature. The hawfinch can crack the stones of cherries and sloes, though it is said to abandon the habit in domestication ; but while the development of its beak and neck give it an almost walruslike grotesqueness, the bullfinch remains symmetrical and shapely. No small bird so well combines strength and grace ; to find power and proportion so finely fused we must turn to the birds of prey, such as the sparrow-hawk or the heron. Homely seed-crackers like the greenfinch or our caged serins from the Canary Isles look plebeian beside it. Even among gaily-dressed finches the plumage of the cock bullfinch has a unique distinction. That daring yet delicate contrast of rosy red, lustrous black, and pure grey makes the chaffinch look neatly commonplace, and shames the goldfinch as a harlequin.

Some of the most brilliant finches come from almost the coldest climes, and it seems that our English winters are too kindly to show bullfinches

at their brightest. The northern bullfinch of the Baltic and West Siberian forests is more splendid and larger ; and conversely, in the soft Azores, which send us our mild winter weather, there is a cock bullfinch unmistakably of the same kinship, but duller than English hens. Hen bullfinches beside their mates are like a fading sunset ; they are barred with the same pattern, but the rose and grey have lost their purity and glow. Early in autumn the thickets held a mere travesty of a bullfinch, a dusky brown thing only lit with the white rump of the bird as it flies. That was the young bird, even dingier than its adult cousin of the Azores, and displaying, as many believe, the pattern of bullfinches in an older and duller world. As the leaves fell, that obscure nondescript vanished ; it was transfigured by an autumn moult.

Bullfinches are sometimes seen in autumn in small parties—probably family parties—but most often in pairs, as in summer, and never in large flocks. In this fidelity to their mates, as to their nesting-places, they are the exact contrary of the chaffinches travelling far overseas in spinster or bachelor flocks. So diverse is the response to winter weather even in the same group of birds. Bullfinches in November may forget the June roses, but they haunt the same bushes for their ripe hips. We find many a bullfinch's nest among

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the rose briars as soon as the leaves fall, and none is truer to a type. All have the same loose, flattish foundation of crossed twigs—rather a clumsy work, much like the platform of the woodpigeon. Perhaps we begin to make excuses for the awkwardness of that strong beak ; but then we study the lining. How can any bill, whether a bullfinch's or the slenderest warbler's, so perfectly interlace into a firm, smooth cup those skeins of tangled rootlet, those long horsehairs, those scanty shreds of wool ? All birds' nests are wonderful not only for the skill of their structure, but because none is shaped by an implement framed for the purpose, but by the bird's bill and breast.

Bullfinches in autumn and winter eat many berries and weed-seeds which we can well spare them. Sometimes we see them balanced, gracefully though a little weightily, on the slender out-works of the thicket, tweaking at the blackberry fruit now gritty and grey. The bullfinch prefers the seeds of the bramble after they have lost their pulp. We should expect that of a bird which cracks haws for their kernels ; no doubt it is the seeds, and not the mealy jelly, that it seeks in the scarlet rose-hip. Spring comes, and the name of bullfinch becomes accursed among gardeners for its pillage of their fruit buds. Many autopsies have shown that the bird shells or husks the bud, rejecting the dry brown outer scales, and swallow-

ing the green core. In summer it feeds its young on insects, which may be noxious, as well as on crushed seeds ; but there is no trace of insects in these green salads. In spring the bullfinch must reluctantly be admitted to be a garden pest ; let us admire it the more while it is blameless in November.

In these darkening days there is a new emphasis in the challenge of the crows. Their harsh yet abated call is in tune with the prowling north wind and muffled fog. Carrion crows shift their ground much in autumn, when the fall of the leaf brings changes in their varied food supply ; and while our own birds seek new quarters with a complaining caw, they are joined by other crows from beyond the German Ocean, of both their own and of the hooded kinds.

The distribution of the grey-backed " hoodie " is very curious, and not least so when the bird, in winter, is most mobile. A great tract of Europe and Asia is parcelled out between the two species, which seldom cross each others' boundaries in the nesting season, though they interbreed along them. In our own islands, England and Wales and southern Scotland are the carrion's ground ; in Ireland and the North of Scotland, and the Isle of Man, he is replaced by the pied hoodie. This concentration of the hoodie in the North and West recalls the general distribution of the more ancient

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rocks, or of the heaviest rainfall. Both these physical features may affect the food, and therefore the distribution, of certain birds, but the clue fails us in explaining why England in summer has no hoodies. These, it is true, are the typical crows of the colder North and East ; their grey forms float over the ice-ground granite of the Norwegian lakes, and their rasping voice is heard among the scrubby thickets of the Berlin Thiergarten, like the carrion crows' from the elms and planes of Kensington. But the inclusion in the hoodie's empire not merely of part of the Balkans, but of most of Italy, makes it impossible to ascribe to him the dominion of the dreariest lands.

The hoodies that come west to us in late autumn and winter are oddly local too. They are commonest in the North-Eastern and Eastern Counties, but rare in most other districts, and mainly birds of the seashore. Many strike land in Norfolk, and a few of these push inland to the south-west, along the great chalk range which runs through the southern Midlands. Here, in the coaching days, they met travellers bound northward by the old road up the Lea valley and over the hills above Royston, and as curiosities of this stage of the journey they were often called Royston crows. Like Stilton cheese, which was made, not in Huntingdonshire, but in Leicester-

shire, the Royston crow took its name from the spot where it provided travellers with entertainment. Others enter the broad gap of the Medway and slink westwards under the slope of the North Downs ; they have a nomad's eye for the great guiding landmarks. Others, "scarce so gross as beetles," can be seen far under the white brow of the South Foreland at low water, picking for shellfish and stranded garbage. The throat of crows is an open sepulchre for all corruption, purging and transmuting it into sinewy muscle and ever-wary brain.

On ravens' pranks and the artifices of wild crows in India many pages have been written. Our English crows are kept captive less often than ravens not merely because of their slighter size, but of a darker temper. Their minds run less on practical joking than the raven's, and more on killing. In the wild haunts of crows and ravens among the mountains, crows are reckoned the more dangerous enemies both of lambing ewes and of grouse and other birds at nest-time. Most ravens' nests are set in their rocky surroundings with the grandeur of a robber's keep ; but a pair of carrion crows will fit in anywhere, and do not despise the smoke-blackened boughs beside a city's refuse-tip. Collectively, the food of raven and both crows is much the same, and covers almost everything eatable, and not too small to be

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worth their notice ; but there is a considerable difference in their local and individual preferences. The nesting-time of raven and crow corresponds with the amplest supply of their principal diet. Ravens begin to build very early, because the storms of the wintry months provide them with good store of dead mutton. Most moorland crows wait till late March or April, for lambing time brings strange dainties to a relentless bill, and in April the grouse lay, and the lapwings.

By a curious, but easily explicable, paradox, carrion crows are common both in the wildest scenery and in the tamest. They are numerous in and round London because they are let alone, and have the sense to know it ; they are still plentiful among the mountains and moors because it is difficult to extirpate them from hidden dingles and large, lonely plantations. The raven has a certain aristocratic consciousness which makes it irksome to him to dwell in cramped quarters or subsist by stealth. In the years of war, when beasts and birds of prey began to win back the land, it was strange how ravens returned and bred on the most commanding sites in gullies long ravenless. When gamekeepers and shepherds' sons returned, the years of restoration passed ; driven from their ancient seats of predatory grandeur, they would not hide among the bushes. On moorlands devoid of real

trees carrion crows will nest among low brakes of blackthorn, within arm's reach from the soil. All through the high and lonely sheep counties they have settled by the abandoned farmsteads and nest in the screen of firs or sycamores that keep the wind from the deserted gardens. In winter they themselves desert these windswept homes and lurk in the skirts of the villages. We have grown to know crows as solitary birds, distinct in pairs, and thus most easily distinguished from the social rook, which is loosely called a crow also. Crows have become solitary as hunted men scatter—for the sake of concealment. Persecution forbids them to congregate ; but where, as in and near London, they are little molested, the ancient and sinister flocks have already reformed. A gathering of eighty or a hundred carrion crows can often be seen feeding in the bed of the tidal Thames. Though harmlessly searching for shellfish and for any fleshy litter, that sable cloud is almost startling in its quiet suburban surroundings. The wit of crows has made a compromise with civilisation, but their hearts are still hostile. For century after century their flocks have gathered over battle-fields, and dying ears have heard that harsh and hungry caw.

With the hooded crows in autumn come multitudes of rooks, skylarks, lapwings and other

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familiar species, as well as flocks of fieldfares and redwings which proclaim themselves as strangers. A scarcer, but regular and apparently increasing winter immigrant is the black redstart. To many bird-lovers in this country the very name of the black redstart is unknown; and, since the Alps now draw fewer English visitors in summer and more in winter, the opportunity is decreasing of making its acquaintance where it is most conspicuous. To those who know what is still called the common redstart, the name of the black redstart is almost a sufficient description. Although even the old cocks are iron-gray in winter, rather than sooty, black redstarts, of all ages and sexes, are duskier birds than our summer immigrants, and all have that quivering rust-red tail. But of late years the summer redstarts, like corncrakes, have become strangely few in many of their old haunts in the south and east; and the winter redstarts have lately crossed the path of many seaside residents to whom their cousins are unfamiliar. Let those inexperienced in redstarts look out for a small bird, about the size of a redbreast, but with a long ruddy tail, which has been twitching and quivering ceaselessly through the ages from the Saxon days when a tail was called a "start." That red tail, and its movement, are a surer guide to the black redstart than its blackness.

Only the old cocks are blackish, and a visitor of this species to our sea-cove or beachside garden is much more likely to wear the less conspicuous brownish livery which, with little difference, clothes the hen bird and her young of both kinds.

Black redstarts are regular visitors in small numbers in autumn to our eastern and southern coasts between the Humber and the Bristol Channel. North of the Humber they occur more rarely; and this choice of a landfall corresponds roughly with their summer distribution on the Continent, for they are scarce north of the Baltic. Most of those that come here pass on south towards Africa, joining the great stream of migrants that for at least three months has once more been pouring down the coasts of France and Spain. But no one who has watched them nesting close to a Swiss glacier need be surprised that for a certain number the English coast is mild enough. Most of them thrive with us till spring, and then depart; but, after many doubtful or mistaken records from various parts of the country, it is now established that at least one pair of black redstarts has nested in a seacoast county in successive years.

There are several strange and suggestive points about this arrival of black redstarts in autumn, and their choice of a winter station. In the first place, when the sun turns south and a

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myriad passage-birds pursue it, what draws this annual handful of Continental songbirds not south but west? The lure must be our mild soft air. In most autumns, and sometimes all through winter, England is so much more prolific in worm and insect food than the frozen Continent that it partly diverts the normal path of migration. Instead of southwards, for many birds it runs westwards, or even north-westwards, across the grey North Sea. With the throngs of crows, rooks, skylarks and finches there comes to us our daring handful of black redstarts. It seems more curious that these birds, which nest inland, should prefer to winter by the sea. But our own seaside rock-pipit is so closely allied to the Alpine or water-pipit that some authorities regard them as hardly distinct. So perhaps it is not strange, after all, that the Alpine pipit's constant companion within sound of the avalanches should feel at home, and find food which suits it, along the beaches where the pipits feed. Those ashy and fleeting figures may remind it of old summer neighbours.

In every Alpine village the black redstart nests and feeds about the cottages, like the redbreast here in England. And that suggests a possible reason why, with rare exceptions, it has never colonised England in summer, and why it mostly clings to the seacoast. Our robins are far too

jealous to tolerate a rival, but, even in winter, few of them feed habitually on the shore. Lonely robins can be found in winter picking the seaweedlice in tide-washed caves, and there is a minority of hermit robins in wide woodlands. But most of them have achieved an advantageous intimacy. They have here become the special friends of man, like the white wagtail in Norway and this bold black redstart, so robinlike in its flitting gestures, among the Alpine anemones and gentians. There is room nowhere for two species with equal privileges.

Old cock black redstarts become blacker in spring by the odd but simple process of wearing off the grey tips of their feathers. It is the same process that gives the housesparrow a smart-black bib, and doubly gilds the yellowhammer. Like our summer redstarts, they have a cheerful but slight and fragmentary song, and, like the redbreast, they renew it in autumn. Late in September, the autumn song of the black redstarts clinks and chirps high in the streets of Berne, and around the blackened *mayens* already deserted by herds and herdsmen. In parts of Berne they seem to have driven out the house-sparrow, and to be disputing the dominion with chaffinches. In summer they build in chinks about houses like robins or spotted flycatchers, but also alone among rocks. Within reach of man they

line their flattish nests with a few fowls' feathers, on the mountainside with the shed white plumage of the croaking ptarmigan. Most blue eggs seem a protective response to faint daylight, and the pure white eggs of the black redstart suggest an old habit of choosing a niche darker and deeper than hides the blue eggs of the common "fire-tail" in the cowyard wall beside a Westmorland farm.

DECEMBER

HUNGRY NIGHTS—THE WILD SWAN'S LAMP—FRAIL
BIRDS OF WINTER—A FURY FROM THE PIT.

IN winter the stormiest weather is the sunniest. Settled weather brings grey and covered skies, or spreads fog over town and plain ; but as the storms rush past from the south-west, the sky is swept clean behind them, and the dark months gain their largest dole of light. Birds alone of Nature's tribes are all wakeful in winter's daylight ; it is the penalty of their eager vitality that every day they must seek their daily bread.

In mild spells the soil is soft to work in, many insects creep out from hiding ; birds fare almost as richly as in spring, so long as daylight lasts. But their greatest enemy is the length of the nights, above all in cold weather. Unlike those snakes which spend many days in digesting one meal, the alert and ardent frame of birds demands constant replenishment. Sixteen hours of darkness is a long fast for the day-feeding kinds, even when food is plentiful ; and when the soil is welded by frost, and seeds and berries hidden by snow—above all, when the birds are storm-driven into

refuges where all is strange to them—they may face the night half-fed and perish before sunrise. Tropical birds are encouraged to feed at the “ Zoo ” by turning on the light ; in the dark, even when defended from cold, they may perish from abstention. English cage-birds respond equally to artificial daylight ; the owner of a prize goldfinch, taken from a nest in an Oxford cemetery, attributed its large size and many distinctions to his having roused and fed it regularly by night during its first winter. The mid-winter night of the north is the corollary of its long mid-summer day ; June brings an almost endless feeding-time for the migrants and their young broods, and December wrings the birds that linger.

Next to this long, dark night, cold wind is the bitterest ally of hunger. Birds detest having their feathers blown backwards ; even when the air is warm, they almost always perch facing the blast. When a cold and gusty wind whips from all quarters, they must quickly find shelter or perish. The irregularity of the wind-currents explains why many birds—greenfinches, wagtails, thrushes—migrate out of the central Lake District during the mid-winter months. The climate is not severe in those deep valleys, and there is good cover in the woods by the becks ; but the winds rage down from the tops in conflict at every angle, so that no bird can keep its body covered. Birds

spend two-thirds of their life in mid-winter sleep, and they need a warm and sheltered dormitory. One of the modern aids which have much increased the numbers of small birds is the ever-green thicket. Every spruce cover and laurel shrubbery becomes a furnished lodging ; beat the bushes in the garden after dark, and there is a stir like rats round a corn-stack. The birds in the laurels are mostly sparrows and finches and starlings, with a few blackbirds and thrushes ; hedge-sparrows roost in the thorns where they nest ; wood-pigeons oddly prefer bare larches to feathered spruces ; and tom-tits sleep night after night in the nooks and crevices under the crown of pollard hornbeams and willows.

The brightness of a winter morning after rain is increased if the storm passed early, so that the earth grew frosty in the starlight, or, again, if the clearing shower that brings the north-west wind had a sting of snow in its tail. These white, cold mornings silence the winter singers, at least until New Year's Day is well past. Their cheerfulness appeals to the eye alone ; but when December breathes dark and mild, the air is musical and scented. Song-thrushes with settled haunts recover most of their spring music ; and still, from the strewn carpets under the half-stripped oaks, blows the scent of tan which invigorated October. In frosty December weather thrushes seldom

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sing ; they share the restlessness of most birds when a hard spell threatens, and hop nervously over the turf that the frost has sealed. Even the robin sings little on hard, bright days ; only the starling keeps up his parrot-talk in the naked elm-tops, whistling with spiky throat, and copying the little owl's cat-calls in miniature.

That search of our garden thrushes for a soft spot on the frozen lawn is one ripple of the vast tide of migration that rolls and eddies over many degrees of latitude in cold and stormy winters. Flocks of lapwings, with crooked piebald pinions, move south-westwards all day overhead ; and more rarely, but often in greater numbers, the golden plover throng the same stretch of pasture or plough. Lapwings are the most civilised of all the wading tribe ; they cling persistently to old breeding haunts among populous villages, and they seldom reach the far north. But golden plover nest in Britain only on wild and wind-beaten moors, and pass our borders under the eye of the midnight sun to the moss-banks that fringe the Arctic Ocean. Their wings are as sharp and swift as the lapwings' appear slow and flagging ; and when they feed and rest on some heathy field in Southern England they retain the shyness of their Arctic solitudes, and take the lapwings for their pilots and guides.

As we approach within two hundred yards, the

whole flock rises—a thousand or fifteen hundred birds—and wheels high against the pale blue sky. Now we see that the great concourse is made up of separate bands, combined but not mingled ; troop keeps distinct from troop, though their paths intersect ; this party may have travelled in company from the Norwegian fjeld, and that from Iceland. The lapwings, too, are dispersed, but in smaller bands ; we suspect them of being drafts from restricted breeding-grounds not far away, or, at least, from lands where men are familiar figures. It is striking how the wilder birds follow their lead. After we have watched the wheeling host for some twenty minutes, and the lapwings grow tired of the wing, down they swoop to rest, and at once the golden plover follow. Once more we see how some birds have an innate wildness which forces them to flee from man, because they cannot gauge their danger ; others, like the lapwing and woodpigeon, know exactly how far man can be trusted, and thrive by his side.

All birds which gain their food from the soil quickly famish in a frost, and snow is almost as perilous for the seed-eaters. Most seeds have fallen by midwinter, and a snowfall hides them. We see goldfinches flashing as they alight on a branched burdock or knapweed stem above the snow, and titmice pick the dry heads of ragwort

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and thistle ; but larks migrate across the snow-clad hill-tops in wavering crowds, and linnets, finches, and yellowhammers throng to the corn and straw stacks. Here again the birds are helped by man, for the ricks and the threshing-yard beside them contain the gleanings of many score of acres both in grain and the seeds of cornfield weeds. If scattered on the fields they would be hidden ; but here the traffic of the farmyard bares the chaffy litter, and melting snow soon bares it. All day the birds beset the ricks with their leaping flight. Berries are rare after a spring that nipped their flower-time ; in spite of the popular saw, their plentifulness is not a warning of a hard winter. English song-thrushes use shell-snails as an emergency ration in hard frosts, as well as in July droughts, when the soil is equally impenetrable. In summer snails seek cool undergrowth, in winter they go into longer hiding among the cracks of rocks. Among the fern-roots in the stony lanes, song-thrushes are grubbing and delving as long as hard weather lasts. Green woodpeckers descend from their trees when sleet has iced the touchwood, and feed much in meadows ; they can hack the crust when the weaker bills of thrush and starling are powerless. Starlings flock by hundreds to town rubbish-tips with rooks, or with gulls near the sea ; the birds utilise what man rejects. If frost persists, multi-

tudes of birds follow their great route of winter migration south-westward into Cornwall and Ireland. Many of the mobile kinds know the way on to the mild Biscayan dunes and the estuaries of Portugal ; but in the rare years when it is gripped by a hard winter, thousands perish in West Cornwall.

Most recent winters have been so mild in the south and west of England that hard weather takes the birds by surprise. In captivity such larger birds as owls and ravens grow old, but the life of most creatures is shorter in freedom, and only a minority of the small song-birds have seen a three weeks' frost. Of the two wagtails found in winter in most parts of England, only the grey wagtail obstinately remains a water-bird when hard weather befalls. Most of the common pied wagtails or dishwashers play no more at dish-washing when ice flings its rafts and spars about the watersides ; we hear them flitting high in the frosty sky, seeking dry uplands where the hoofs of the folded sheep lay bare insect life. All through summer the name of meadow pipit seemed a misnomer. What did those piping sprites of the high grass or heather know of lowland meadows ? Search the moors now, and nine-tenths of the pipits have fled ; it is in the meadows that we find them, flitting among the frost-bleached tussocks with that thin mountain cry, and as if in

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bewilderment at their new surroundings, perching like tree-pipits in the streamside elms and willows.

It is curious to watch the hesitating reaction to hard weather of a generation of blackbirds which has never seen a week's sharp frost. Blackbirds are no great migrants, even when frost scatters others of their family. Song-thrushes leave their hedgerows and woodsides and seek the south-west, or even form overseas flights, long before the home-keeping ousel leaves its holly covert. When frost besets them, blackbirds are divided into two factions or cults. Many persist in their usual winter habit of scratching, almost like pheasants, among the fallen leaves in the ditches for their hidden store of small black and grey slugs and drowsy insect life. The leaves, caked and felted with frost, offer an unwonted resistance ; the sound of the digging blackbirds is loud along the snow-paved lanes. But blackbirds of less conservative habit are already stripping the blood-red rose-hips, which attract blackbirds by their pulpy cases, just as they draw greenfinches by the seeds inside. Now that the briars are bare, blackbirds are shy of exposing themselves to the swift twist of a hunting sparrowhawk. Nor are they skilful to clamp their loose, long frames beneath the cluster as they strip it, like the gymnasts of the tit tribe. It is comic and pitiful to see their clumsiness and their fears as they spy with

quick turns of the head, like schoolboys raiding an orchard, and gobble greedily after the long night's fast.

Few birds are not faced with half rations when frost turns earth to iron and water to crystal. Dead trees freeze, like the turf and the brook-sides. The softest touch-wood becomes intractable when soaked by snow, thawed and then frozen. The nut-hatch hammers at it angrily until his blows ring loud ; he, too, seems perplexed and frightened at this novel winter. Moor-hens are half land-birds at will, and accept their exile from the frozen mill-lead with equanimity. They pace the ice as though they had been born on a rink. The dabchicks are less happy ; they have almost a fishlike attachment to the water in which they were cradled, but, unlike fish, cannot sleep beneath the ice-roof until the weather changes. They, too, form flocks under the pinch of cold, and though a dabchick flock is usually small, five or six birds can be seen ducking together where there are usually but a pair.

When cold gales drive the diving ducks southwards, their need for open water is sharply contrasted with the adaptability of the mallard. This wild original of the Aylesbury and Indian runner forecasts, in a wintry glimpse, their tolerance of pondless captivity. Mallards will rest in comfort on the ice of a fast-closing lake while pochards

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and tufted duck cluster agitatedly in the last water-hole. Dusk falls, the scythe of frost swings heavier under the small-eyed night, and both the swimming ducks and the diving ducks are gone again. They head southwards for the live glint of open water ; but the meres that glimmer under the waning moon are ice-sheeted and grey, and the water-birds are driven on to salt water. Then the famous haunts of wildfowl on the south coast collect their huge flocks of mallard and widgeon, with a varied though less numerous concourse of grebes and those saw-billed sharks of the duck tribe, the red-breasted mergansers. Goosanders leave fresh water more reluctantly and move south less freely ; but they are conspicuous in the strange and almost Arctic picture which a long frost paints against the background of the western Scottish shore. The sandhills are grey with frosts, their tufts of marram-grass snow-cruled. The sun sinks, striking a red path down the sands, for they are filmed with ice after every tide ; and out at sea swim the great white goosanders and their dusky mates, while between them and the shore ranges a seal's round head, curiously scouting. Towards midnight the Arctic may come nearer, for as the Bear burrows and the cold grows intenser, sometimes the horizon throbs with the shining bands of the Aurora and the zenith is stabbed with its bright spears. Unseen in such a resplendent and

unearthly night, the wild swans ride to their unfrozen resting places.

Such days and nights see bird life glorified ; but even in our homely village landscapes, certain birds gain distinction from winter. Some appeal to us by their successful daring in facing a season for which they seem too frail. Long-tailed tit-mice are a marvel of wintry weather. When half the song-birds have vanished, and even such birds of prey as the butcher-birds find England too hungry for them, it is astonishing to see the barren and naked boughs still populated by these motes of life. Even the goldcrest, though a little smaller, is built more compactly, and appears less fantastically unfitted to brave the frosts and blasts. It is the ceaseless struggle of the long-tailed tit-mice with starvation which makes their parties so conspicuous on cold winter days. Eight or ten together, they twitch through the boughs and briars in search of food as long as daylight lasts, and catch the eye as they bob across the open spaces, like fairy tadpoles. No birds are more restless as they feed ; each must search a hundred twigs void of life to the human eye before they can make a breakfast. Unlike the delicate tree-creepers, which work in crevices of the bark, long-tailed tits hunt the trees' fine tracery ; and as the year chills, and the struggle for life becomes more eager, this tends to separate the flocks of mixed

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species which ranged the woods in autumn, and to make the long-tailed titmice keep more exclusively to themselves.

Eggs of minute moths, and spiders and scale insects, must be the chief food for which long-tailed titmice hunt the naked twigs and leaf-buds ; and it is no wonder that even a titmouse must work hard to make a living from such microscopic fare. Long-tailed titmice have less to fear from the direct rigour of frost than lapwings and starlings and thrushes, and many other birds which extract most of their food from soft soil ; but eight hours' feeding hardly sustains them through the next sixteen. Their flocks feed eagerly after sunset, until the glow goes from the frosty sky ; then they huddle for warmth in their roosting-places before darkness bewilders them. Eight or a dozen can be found clustered on a bitter winter afternoon under the jutting lip of a bank in a hollow lane, where in the gloom of interwoven beech-roots the frost hardly penetrates. Warmth at roost may be one attraction of the flocking habit ; most birds flock in winter, and the colder the weather, the larger as a rule, grow their flocks.

More than wrens, and as conspicuously as the goldcrest, these little creatures, with their minds fixed on plant-lice, seem almost unconscious of man. Only when we loom near their nest do they clearly betray perception of us, and vent it in

elfin scolding. Elsewhere, we might as well not be there ; their winter flocks pass us as unconcernedly as blown oak-leaves. A bird without wit to fear us can hardly be made our friend ; there seems something unearthly about these small birds, as if our worlds met without intersecting. If man some day destroys himself by his inventions, the long-tailed tits will flit immune and indifferent above his relics, so long as the weather is mild. But in long, hard winters long-tailed tits almost vanish from England ; like our race of Dartford warblers, they have no instinct to seek a refuge from starvation along the milder western shores of Europe, which preserve thousands of our birds for us when we are subdued by the Arctic. Only the last few seasons have seen the re-establishment of their normal numbers after the winter of 1916-17—our last hard winter. The race of these islands has gained in isolation a peculiar beauty. There are long-tailed titmice too nearly akin to rank as distinct species over a vast tract of Europe and Asia ; but no foreigners have the grace of that rosy head. Watch the long-tailed tits perking and poising in the alders beside some Alpine glacier-stream. Their polls are hoary, as if subdued by the snows of the Alpine winter, instead of flushed by English apple-bloom. Their cry, too, sounds bolder and hoarser, unlike the soft petu-

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lance of those varied calls as tit follows tit through the furzebrakes of an English common, or its naked thorn-boughs.

Though they abstain from great migrations, long-tailed tits are essentially wanderers within narrower limits. They are wandering whenever we see them, except when they are nesting ; and we never know where spring will strand them, and we shall find their nests. Great and blue tits have nested in favourite crannies for a human generation ; it is much if a pair of long-tailed tits nests for two years running in the same garden, in a different bush or brake. Like chaffinches, they find every tree, thorn, or ivy-clump to their liking ; and their spangled nest is often deceptively like the chaffinch's, until they roof it. Huge for the bird's size, and sparkling, like the spring light through the boughs, with spiders' silk and lichen, the long-tailed tit's nest is more exquisite than its own tints and grace. Such of these tits as outlive winter make early work with spring ; we see them by mid-March, before the chiffchaff calls, turning and returning to the same blank dimension among the ivy-leaves or black-thorn twigs, and early in April it is sphered into a silver nest.

Long-tailed tits appeal to us most by the eye ; nuthatches make the darkest days cheerful by their ringing voices. Only the wren's song, or

the thrush's, is as spirited a sound in the bare, mild gardens of December as the nuthatch's repeated call. That cheerful cry is not a song, for the nuthatch has no true song even in spring, when the winter cry is changed and intensified. Naturalists of drill-sergeant type may insist that it is a call-note. But why should any bird call so persistently to his mate in broad daylight, when she is close beside him? That cry from the boughs where the level morning sunbeams stroke the flapping ivy has the stamp of sheer natural vitality ; it is like the shouting of school-children.

Nuthatches rarely stand still to be looked at, and seldom visit earth's level, though now and then we may be lucky enough to catch them bathing, or digging clay for the nest. But their boldness and their almost ceaseless activity make them easy of acquaintance. Only one other bird ever displays the same plain blue-grey back and underparts of warm buff ; and that, odd as it seems, is the kingfisher. When a kingfisher is sitting motionless in a dull light, all its sapphire may be lustreless ; but the nuthatch is far too small and distinct in habit to be mistaken for a kingfisher, except by inexperienced interpreters of bird pictures. See the nuthatches—for they keep constantly in pairs—watch them for a little as they run with eager strength, and sharp, prehensile claws, under and over the bent limbs of

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the oak-trees ! Their throats are almost white, and we catch sight of a black stripe at the eye ; but the light of a December morning among the trees seldom betrays the whitish streaks on their tail feathers. The noisiest of the two mouse-like runners is the cock ; we can believe him to be a little bigger and brighter ; but the plumage of both sexes is virtually the same, and it scarcely alters with the seasons.

A nuthatch is a bird that hacks nuts ; then why are these nuthatches searching, with every air of sanguine expectation, in cracks of boughs which are palpably nutless ? It is no fable that they crack nuts and nutlike seeds. In December the split shells of the hazel can still be found wedged in the rugged crevices of the oak-bark. But by Christmas the birds' nutting-time is over ; we heard them begin their hammering long ago, in those hottest days of September, when the brooding warmth seemed to muffle the very sound of their strokes. For most of the year the nuthatch is an insect-eater, and it hunts all through these winter days for insects in all stages of life, and for little spiders which have crept from winter into the innumerable minute crevices which seam the bark of old timber. Thus they are mostly flesheaters, while the oil in nuts makes them more like suet than meal ; so, when the nuthatch descends to our bird-tables, it

despises, as a rule, mere crumbs, but scraps of fat delight it.

A sedentary bird, and vocal almost all the year, the nuthatch seems the presiding spirit of many well-timbered gardens. But it is a scarce bird in a great slice of Northern England, and there are several outlying districts in the south and west where it is unexpectedly missing. It is a bird of old timber, though not so old as is necessary for the wryneck and the two spotted woodpeckers. Both these woodpeckers bore their nest-holes in touch-wood ; but the nuthatch does not bore its hole, and prefers the support of wood still sound or but slightly softened. Like the wryneck, it often chooses the hole where some storm has torn out a bough ; great gales and overwhelming spring snowstorms are a godsend to all this company of tree-climbers. Twenty years ago there was a great April snowstorm which made nesting-holes for many bird generations. But while the wryneck mainly relies on old apple-trees, many nuthatches are parasitic on green woodpeckers. They vie with starlings in the victimisation of this wilder and simpler bird ; and there is many a stubborn contest between the squatters. Among the human kind, economic strife may be almost as bitter and destructive as actual war ; and in much the same way some of the most obdurate conflicts of bird races are fought out less with beak

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and claw than by persistency and more than bird-like concentration. There is a record of a nuthatch sitting triumphant on a nest surrounded by dead starlings ; and we are left to guess how they died. More often it is a contest of mutual annoyance, prolonged from season to season. Nuthatches block their door against larger birds' irruptions by a plaster of mud ; but the precaution becomes a passion. Nuthatches which accept nest-boxes will sometimes dab mud on every joint of the box, on the crack where it hangs against the tree, and even on hollows in the tree-trunk. Nor will any dirt serve ; the stuff they need is tenacious, and they have a keen eye for a vein of marl striping a stream-bank or footpath. Allied to this concentration on building is their attachment to their home. When we think how many a wren or wood pigeon will forsake the nest we have touched, the nuthatch's constancy is amazing. In a beechwood in Gloucestershire one winter a beech-tree was felled in which a pair of nuthatches had occupied an old green woodpecker's hole for the two past seasons. The trunk was lopped as it lay flat ; but in April the nuthatches built in their hole again. Supposing the nest deserted, two boys broke away much of the crust to examine the inner cushion of bark and beech leaves. They were astounded, on another visit to the wood, to find the ring of clay repaired,

and the nuthatches still in sanguine possession of their dethroned and mutilated tree.

Nuthatches go to roost sharp at dusk ; a little after four on a December afternoon, I have seen one dart into a woodpecker's hole in a wild cherry tree, like a rat chased by a terrier. For a little while we hear only the pheasants crowing at roost ; then the wood-owl quickens the wet aisles with its heartening night-call. Mid-winter is a night-bird's midsummer ; yet owls in December encroach upon the scanty hours of daylight, as if despising the sun's feebleness. Sixteen dark hours should be enough for any hunter of the night ; yet in these grey afternoons of midwinter it is common to see the white barn-owl already hunting soon after three o'clock, when it is light enough to see his witch-like face. Only birds of prey have faces, for only they, like man, have shed fear sufficiently to dispense with eyes that look out on both sides. Vultures can look repellently human ; but even the higher birds of prey—eagles and falcons—lack that apparent forehead which helps to give the barn-owl its strange air of a malevolent old woman, and the brown owl that expression of amazed good will.

Day-flying owls, such as the little owl and the short-eared owl, have the facial disc less developed, and are much more hawklike ; and even in the night-owls it is simply an expansion of plumage

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and not the vestment of an ampler brain. A plucked owl shows how much its head owes to its wig ; that human moulding of the countenance is merely a convergent pattern of feathers to focus faint rays of light. However keen their hearing, owls, like bats, need light for their work, and it is probably the excessive darkness of these December nights—blind with mist and almost without twilight—which sends forth both bats and owls while light still lingers.

Sometimes the owls eat the bats ; that has been proved by picking to pieces the inoffensive superfluities of their diet, which they disgorge daily within or beneath their roosts. The soil beneath a wood-owl's tree in Kensington Gardens was littered with the bones and feathers of sparrows, neatly rolled, like a paper cap in a cracker, by the gullet of the owl. These common brown owls are mainly bird-eaters, though one finds in their nest-holes such relishes as beetles and newts ; and it is perhaps because they know their way to the little birds' roosts that they wait until dark, for we seldom see brown owls hunting in daylight. But they, too, are mousers, though less fond of fur than several of their kin ; and all alike appear to hunt largely by sound, and to eke out by the ear the scanty illumination of dusk and dawn and moonlight.

The noiselessness of a hunting barn-owl is more unearthly than its rare and frightful scream ;

and the brown owl afloat on the unmoved air is still stranger, because the bird is bulkier. Unsupported by our ears, our eye seems deceived as by a phantasy ; and it is no wonder that the barn-owl riding pale in the dusk, with its ghastly cry more significant for its infrequency, is still regarded as death's messenger. This noiseless flight seems designed not to frighten the owl's prey ; but it may be even more useful in allowing the owls to hear their prey moving. It seems plain from an examination of most owl's ears—the actual cavities of hearing, not the erectile plumes—that they are meant for much use. Beneath a protecting skin-flap there are convolutions of extraordinary complexity, and sometimes different on the two sides. Though their function cannot precisely be explained, there is a presumption that owls with two ears made differently are best equipped for the localisation of sound. It would be futile for the owl to have ears of utmost keenness, if the twitch of the vole in the hedge-bottom was to be drowned by a wing-beat which throbbed like a plover's, or whistled like a goldeneye duck's. Each web of the wing is silenced by a nap of downy softness, of which we may still stroke the worn plush when we gather the feather dropped after nearly a year of use beneath the elms in August.

Brown owls grow musical in autumn nights, when their moult is over, and blow their wood-

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notes in tall old gardens all through the winter. Close at hand we hear them repeat "Ko-wick, ko-wick," and often at tedious length ; then off one rides, the other follows, and the long, sweet hoot swells out and echoes from the columns. Sometimes an owl will combine the cry "Ko-wick," a little mellowed, with half a hoot ; and that is nearly the familiar rendering, "Tuwhit, tuwhoo." The full hoot is a long fourfold call—"Hoo-oo-oo-oo" ; and often the cry falls fainter before the end, as when a train turns into a tunnel. That is when the owl floats behind some thick clump of evergreen bushes, or frees his voice over the empty starry field.

The little owl has met with a varied welcome, since it was first brought over from the Continent, and later extended its range much more rapidly as one of the unexpected accidents of the war. Its food is varied, and it is probably still making experiments ; some observers denounce it as a chick-stealer, another has watched it eating worms on his lawn, like any thrush. Whether it is praised or blamed, it is not a bird which allows itself to be overlooked ; with its free flight by day and catlike yells at dusk, it will soon be the most familiar owl in England. Its image is stamped on Attic coins, for this is the bird of Athene ; but the glare of those yellow eyes less suggests goddess than fury. They have a singular and penetrating animosity,

beside which the withered spite of the barn-owl is simply old-womanish. Off flies the little owl from its perch, with a swift uncanny flutter which joins with that inhuman topaz frown to stir some half-lost memory. Back it comes ! There is the shape that beat in 'Turnus' face as he fought, forsaken by heaven, his dying fight. The little owl had turned those eyes on Virgil from the roadside tombs, as on us from this parkside paling ; and he chose it for a fiend from the pit to draw the curtain on his story.

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